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TRANSURETHRAL PROSTATIC RESECTION–REPORT OF FIFTY CASES.

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(Read before the Sectional Meeting of the College of Surgeons, held in Phoenix, March 16 and 17, 1934.)

In the past seven years transurethral prostatic resection has been developed and perfected, and in the last three years has swept over the entire country and become almost the exclusive topic of conversation wherever urologists are gathered together. At first confined to contractures, median bars, and small median lobes, improved methods and greater skill on the part of operators have now allowed very large adenomatous prostates to be successfully attacked in this manner. In this developmental period, many mistakes have been made, leading to not a few unnecessary fatalities, so that opinion in the medical profession is still somewhat divided as to the desirability of the new method.

While my experience with the punch instrument of Young—really the pioneer instrument in this field—dates back to 1921, I wish to discuss today only what has befallen since the adoption of the newer instruments in April, 1932. My work has been done with a McCarthy loop resector, utilizing a spark-gap cutting current obtained from a Davis-Bovie apparatus. For some time I confined my efforts to median bars and contractures of the vesical orifice, but with increasing experience I have operated upon larger and larger hypertrophies, finding it possible to remove tissue satisfactorily not only from the median region and vesical orifice, but also from the lateral lobes right down to the apex of the prostate.

The material I wish to present consists of fifty-one cases, upon which fifty-four operations were performed. There is not time to give the details of each case, but I shall try to summarize them so as to give a correct picture of what has happened. There were thirty cases of benign prostatic hypertrophy. In every case the symptoms of urinary obstruction were present. The enlargements varied from small to very large. The prostatic enlargement was complicated by diverticula of the bladder in one case, tabes dorsalis in one case, stone in the bladder in two cases, and stricture of the urethra in two cases. There were seventeen cases of median bar and contracture of the vesical orifice, without real adenomatous hypertrophy. In nine of these cases operation was performed for urinary obstruction alone; in the other eight, obstruction of various degrees was present, but the predominating symptoms were those of chronic prostatic infection. I discussed these cases at a meeting of The American Urological Association in Chicago last June.* The median-bar and contracture cases were further complicated by urethral stricture in two cases, tuberculosis of the prostate in two cases, polyposis of the urethra in one case, stone in the bladder in one case, and extensive papilloma of the bladder in one case. There were three cases of carcinoma of the prostate, with severe urinary obstruction in each case. Finally, there was one case of urinary obstruction due to extensive papilloma of the bladder growing directly into the vesical orifice, and which was removed by resection, just as a prostatic growth would have been.

The ages of the patients with benign prostatic hypertrophy varied from 45 to 91. (Table

*Jour. Urol., 1933, XXX (Nov.), 579-592.

TABLE I.

B. P. H.		Age	M. B. & C. V.	
45-55 yrs.	7		20-30 yrs.	1
56-65 yrs.	10		31-40 yrs.	4
66-75 yrs.	11		41-50 yrs.	6
76-85 yrs.	1		51-60 yrs.	4
86-95 yrs.	1		61-70 yrs.	1
			71-80 yrs.	1

I.) There were seven between 45 and 55; ten between 56 and 65; eleven between 66 and 75; one between 76 and 85, and one over 86. The three carcinoma cases were aged 60, 70 and 75. The bar and contracture cases varied from 27 to 72. There were one between 20 and 30; four between 31 and 40; six between 41 and 50; four between 51 and 60; one between 61 and 70; and one between 71 and 80.

The symptoms of which the patients complained had been present from 6 months to 20 years, the average period being 6.65 years.

The most common symptom was frequency of urination. It was present in every case but two, and in thirty-five cases it was the initial symptom. Pain was the initial symptom in eight cases, difficulty of urination in five. Incontinence was present in three cases: one of simple hypertrophy, one of hypertrophy complicated by tabes dorsalis, and one of papilloma of the bladder. In all three cases, the incontinence disappeared after operation.

As many of the cases were prepared for operation by gradual decompression of the bladder, the residual urine was not determined in eighteen of the cases. Nine cases had complete retention when first seen. Of the others, the residual urine was less than 10 cc. in seven, 10 to 50 cc. in six. 50 to 100 cc. in six, 100 to 200 cc. in three, 200 to 300 cc. in one, and 400 cc. in one. (Table II.)

TABLE II.

Resid. Urine		Rena' Func	
0-10 c.c.	7	35%	27
10-50 c.c.	6	under 35%	16
50-100 c.c.	6	under 20%	10
100-200 c.c.	3	under 10%	5
200-300 c.c	1	in ½ hour.	
400 c.c.	1		

The kidney function was determined by the phenolsulphone-phthalein test in forty-three cases. In twenty-seven cases it was 35 per cent or more in the first half hour, which was considered normal. Sixteen cases were under 35 per cent, ten cases under 20 per cent, and five cases under 10 per cent. Of the cases with low phthalein, eight improved under preliminary treatment 10 per cent or more, while seven improved either not at all or less than 10 per cent. Two cases are of particular interest, as they showed no more than 1 or 2 per cent excretion in half an hour even after prolonged drainage. In spite of this, both were operated upon, and both did very well. In general, it is safe to operate after the phthalein is stabilized, even if low.

In twenty-two cases the urine was not infected, while in the other twenty-nine varying degrees of infection were present.

TABLE III.

PREPARATORY TREATMENT

Treatment 32	None 22
Retention cath.	29
S - P drain	2
Interval cath.	1

From 1 to 71 days, Average 14.75 days.

Preparatory treatment was carried out before thirty-two of the operations (Table III) by retention catheter before twenty-nine, by suprapubic tube drainage before two, and by interval catheterization before one. The two operations preceded by suprapubic drainage were in the same patient, and the insertion of the tube was preceded by 21 days of retention catheter drainage. This patient was in very poor condition and the tube was inserted to enable him to go home and recuperate before operation. I may say that he is now perfectly well.

For the operation, I use transsacral anesthesia, which, with preliminary medication, is very satisfactory.

The actual performance of the operation requires complete familiarity with the anatomy of the bladder, vesical orifice, and prostatic urethra, and with the instruments and attachments used. Unremitting attention to every detail is the price of success, and the operator's patience must be inexhaustible. The removal of tissue must proceed according to a definite plan. Before each cut, any bleeding caused by a previous cut must be stopped sufficiently that a clear view can be obtained. This is the first and great commandment, because the loop will cut anything it touches. Blind cuts may pass through the bladder wall or even into the rectum, and have been the cause of many of the fatal mistakes already mentioned. Familiarity with the method is required in order to make the decision as to when sufficient tissue has been removed. This really is the vital point of the whole procedure and there is no formula to follow—only experience can teach. All arterial bleeding must be arrested at the close of the operation.

The tissue removed at operation varies greatly in the amount. The specimens weigh from 0.5 gm. to 14.0 gm. With the rather deliberate technic I have employed, I have not removed the huge amounts at one sitting reported by some other operators. Of the bladder stones, one was removed by an alligator forceps through the panendoscope, the other two were crushed with the lithotrite.

In three patients two operations were required. Two of these patients are perfectly well, the other nearly so, but may require a third operation in the future.

TABLE IV.
POST-OPERATIVE DRAINAGE
From 1 to 13 days, Ave. 2.6 days
More than 4 days - 7 cases

POST-OPERATIVE FEVER

None	30
Nor - 101°	9
101° - 102°	8
Over 102°	8

HOSPITAL STAY
Min. 1 Max. 17 Ave. 4.6 days
3 days or less - 27 cases.

Following the operation, catheter drainage was supplied in all but two cases for periods varying from 1 to 13 days. (Table IV.) This includes four cases in which the catheter had to be re-inserted for a few days to allow post-operative edema to subside. The average period of postoperative drainage was 2.6 days; in nineteen cases it was over 2 days; in seven cases only was it over 4 days. It is my tendency now to make this period shorter and shorter.

Not one of the patients can be said to have been seriously ill after the operation. Thirty had no fever at all. Of the twenty-five having fever after operation, in nine it remained under 101 degrees. In sixteen it was 101 degrees or over, but in only eight was it 102 degrees or over. The fever lasted usually only 2 or 3 days; in a few cases as much as a week or 10 days.

Only three hemorrhages occurred. Two of these were slight, one on the 24th day after operation, one on the 10th day. The third was moderately severe, and came on the 4th day after operation. All three were immediately arrested by electro-coagulation through the pan-endoscope, without difficulty, and did not recur.

There was no other complication except one case of popliteal thrombosis, which kept the patient in bed for three weeks.

The stay in hospital after operation varied from 1 to 17 days. The average was 4.6 days, and only seven patients remained there longer than 1 week. Twenty-seven patients left in 3 days or less.

TABLE V.
RESULTS

Well - - - -	16
95-100% well - -	31—67%
90-100% well - -	36—79%

DEATHS
None
INCONTINENCE
None

TABLE VI.
RESULTS

B. P. H.	Bar & Contr.
Well - 12—44.4%	Well - 4—26.6%
95% - 20—74.1%	95% - 10—66.6%
90% - 22—81.5%	90% - 14—93.3%
Poorest - 60%	Poorest - 80%

I have attempted to evaluate the results as percentages (Tables V. and VI.), and my estimate shows sixteen patients entirely well as regards the urinary tract, twenty-three patients 98 per cent improved or better, thirty-one patients 95 per cent improved or better. Excluding five recent cases, this gives 67.4 per cent of the patients 95 to 100 per cent improved and thirty-six, or 78.4 per cent, 90 per cent improved or better. Considering the cases of benign hypertrophy of the prostate separately, and excluding three recent cases, there are twelve cases, or 44.4 per cent, entirely well, twenty cases, or 74.1 per cent, 95 per cent improved or better, twenty-two cases, or 81.5 per cent, 90 per cent improved or better. The poorest case in the series is adjudged 60 per cent improved.

The bar and contracture cases, excluding those complicated by tuberculosis, show 66⅔ per cent 95 per cent improved or better, and 93.33 per cent 90 per cent improved or better. The poorest case in the series is adjudged 80 per cent improved. Many of these cases are entirely well except for slight frequency or infection due to trabeculated bladders with cellules, which is no fault of the operation. The only complete failure was in a case of carcinoma of the prostate. In this case a punch operation was done first, followed later by resection with very complete clearing of the vesical orifice and prostatic urethra. Retention recurred, and proved to be due to carcinomatous involvement of the membranous urethra, with stricture formation. This could not have been prevented by any other type of opera-

tion. Another patient had a good result as far as his prostate was concerned, but left the city and allowed his urethral stricture to recontract. In one patient with tuberculosis of the prostate, the residual urine has been reduced from 150 cc. to 25 cc., with concomitant general improvement, but cannot be classed as a perfect result. Most of the other imperfect results are due to insufficient removal of tissue, and most of these date back to my less experienced days. The patients feel well enough, and so much improved over their former condition that they see no reason at present for submitting to a second operation.

There has been no death in this series, and no untoward postoperative complication. There is no case of postoperative incontinence. The oldest patient, aged 91, who also had severe myocarditis and had to be constantly digitalized, caught cold ten days after the operation and developed bronchopneumonia, but made a good recovery and is still living a year later. This well illustrates the benign character of this type of operation.

In considering the value of this operation, one must remember that the preparatory period of drainage in cases needing it, is exactly the same as with any other type of operation. From there on, however, the advantages of resection to the patient are so great as to be overwhelming. In the first place, the operation, in competent and careful hands, is extremely safe. When I say careful hands, I mean hands willing to leave a little tissue rather than run the risk of cutting too deep, and guided by eyes that see clearly at every stage of the operation. In the second place, all danger of postoperative fistula and postoperative hernia is avoided, and the operation can never cause sexual impotence. In the third place, the period of hospitalization, with its attendant expense, is reduced almost to the vanishing point. I might say that these considerations make it justifiable to advise operation in a good many early cases where we might hesitate to recommend prostatectomy.

The other side of the shield is that very large prostates may require two or three sittings. Here the advantage of resection as a time-saver largely disappears, but it still has its appeal in its safety, and in the fact that the patient is up and about during the treatment, instead of in bed with a draining incision. At any rate, we cannot ignore the fact that many of the most competent urologists are finding fewer and fewer occasions to do prostatectomy. Kretschmer of Chicago has not performed prostatectomy for over a year, and at the Mayo Clinic not more than 1 or 2 per cent of the prostatic cases are now subjected to prostatectomy. I have performed only two prostatectomies since beginning resection. Both of these were very large glands and both had very satisfactory results. There will always be some cases which will be best treated by prostatectomy, but their number seems to be decreasing every year. I do not wish to appear as an enthusiast, and have, therefore, placed my experience before you, from which you must draw your own conclusions.

I wish to express my appreciation to Dr. John W. Pennington, who has assisted me in most of these operations and performed a few of them himself under my direction.

TRAUMATIC NEUROSIS

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(Read before the Maricopa County Medical Society, Phoenix, Arizona.)

Traumatic neurosis is not a definite entity, but includes the varying manifestations of nervous symptoms following injuries in which no organic lesion of the brain or nervous system can be found. It may embrace all the symptoms of: neurasthenia, psychasthenia, hysteria, localized tics and tremors, localized muscle spasm, epileptiform seizures, psychotic symptoms and resultant mental complexes.

The conception of traumatic neurosis is that it is of functional origin and distinguished from the often somewhat similar symptoms resulting from organic or structural changes in the central nervous system, as in general paresis, tabes dorsalis, and various injuries to nerve structures. There are certain symptoms common to all of these indefinite nervous conditions; they are headaches, dizziness, sleeplessness, buzzing in the ears, general weakness, apathetic look, fine tremors, increased reflexes, and apprehension. Grave physical injury may be accompanied by severe mental or nerv-

ous disorders; more often trivial injuries, or even non-physical injuries, are followed by nervous disorders.

In military life during the Great War it was found that many cases of neurosis developed as the result of fear of battle and the desire for compensation after service. It is recorded that among the prisoners in the German camps, where these two elements were eliminated, there were practically no cases of neurosis. In civil and industrial life we have the corresponding elements of fright sustained in the accident and the desire for damages and compensation following the accident.

Causes of neurosis may be considered under the headings of: physical injury; mental fright; inferior mental makeup; desire for compensation; some unpleasant circumstance surrounding the accident; thoughts of neglect (1) on the part of the employer in providing adequate protection to workmen, (2) on account of the insurance carrier not providing sufficient compensation, (3) on account of the hospital and professional attendants in not providing adequate treatment.

In determining the cause of a given case of neurosis, it is important to know whether the neurosis existed previous to the accident, whether it is directly resultant from the accident and injury, or whether it is resultant from some other cause subsequent to the accident.

SYMPTOMS

The symptoms of traumatic neurosis are practically identical in all cases except for minor variations applying to the individual.

1. In psychasthenia—including mental depression, hypochondriasis, irritability and emotional and anxiety states—the anxious facies is usually present and consists of a strained and startled expression, with widening palpebral fissures and often dilation of the pupils. The typical speech is hesitant but not definitely stammering. Tremors, palpitation of the heart, excessive perspiration, sleeplessness, and vertigo, are usually present. While dizziness is complained of, the patient does not fall. The faculty of attention is usually diminished and results in defects of memory, especially relating to detailed circumstances following the injury. There is an inability to concentrate.

2. Sensory symptoms: Headaches, burning paresthesias, hyperesthesias and anesthesias usually in the lumbar or spinal region. Hysterical anesthesias of the various parts of the body may seem complete; they never, however, lead to burns or other injuries such as are sustained in anesthesias from definite nerve lesions, nor do they prevent delicate movements when in the hand and fingers. Pain may be present in any part of the body and is very diversified in character and shifting in location; many other strange and queer feelings will be described in the individual case, mostly relating to the head, neck and back.

3. Special senses: Loss of smell is common, especially after head and nose injuries; in the eyes, it is often a contraction of the visual field; in the ears, the hearing may be increased or diminished—usually in both ears.

4. Visceral symptoms: occasionally in the bladder—such as frequent urination or burning; genital functions are often diminished or entirely abolished.

5. Motor symptoms have paralysis, contractures and tremors of various kinds and locations. Torticollis, or wryneck, is often present. Hysterical paralysis of the limb may be flaccid or spastic; hysterical spasms with definite curvatures are often present.

Under vasomotor disturbances are head pains, vertigo, intolerance. There is also hypersensitiveness of special senses, disturbance of the aural canals and decreasing ability to comprehend and retain ideas.

6. Emotional symptoms: instability, tachycardia, hyperidrosis, dizziness, dyspepsia, and nocturnal fright. Fright neurosis rarely occurs in seriously injured persons; the physical injury seems to act as a blanket on the emotional reaction. It is usually the patient who is but little hurt and has the opportunity of seeing those who are, who develops a neurosis; repeated telling of the accident and calling attention to some localized minor injury gradually brings on varied symptoms.

In certain countries of Europe, more-or-less uniform methods of evaluating and compensating cases of traumatic neurosis have been developed. For instance, in England, Sweden, Denmark, and Canada, a settlement has been made of the capital or one-payment plan, with the idea that, in the final and permanent settlement of all claims and litigation, the element of desire has been eliminated and the

patient will have the opportuntiy of readjusting himself during the period of compensation. In other countries—Germany, Austria, Italy, and Sweden—these cases are settled on a small monthly payment plan, the compensation to continue over such a period as may be necessary for the patient to become readjusted. In various states in the United States, both methods are used. While capital settlement is less advantageous for the permanently disabled workman, it has resulted in more uniform recovery in temporarily disabled neurotic patients. In the settlement of these cases the statutes in the various states do not seem to make specific provision—it is usually left to the referees or commissioners. It is found that the awards vary from nothing to 100 per cent for the same type of case—not only in different states but in the same state.

A uniformity of action is desirable—not only for the benefit of the sufferer from traumatic neurosis, but also because of the injustice which is being done to sufferers from real physical disabilities.

CLASSIFICATION

With few variations, these conditions are almost always the same. As a basis of classifying and evaluating traumatic neuroses, the following is suggested:

1. A desire, or compensation, neurosis developing following minor injuries and evidently caused by a desire for compensation plus the other elements of neglect which gradually bring on these conditions.

2. Functional neurosis resulting from the frightening or other circumstances surrounding the injury itself; these are considered true traumatic neuroses.

3. Neurosis due to unexplained complexes or mental conflicts in the individual. .

Since it is impossible to differentiate between the three groups in the early months, the symptoms being the same, the management and award should be uniform in all cases. Temporary disability in all classes should rate a maximum of six months where there is no severe physical injury. When the neurosis is superimposed on a severe injury, such as a fractured spine, the temporary disability should be extended six months beyond the normal time for the recovery from the physical injury; during this period it is assumed that the patient will adjust himself, with or without medical aid. If, at the end of the temporary disability period, neurosis is still present and causing disability, a permanent disability award, equivalent to one year of compensation, is paid in a lump sum for the following reasons:

1. In the first class of cases the lump sum award should satisfy the neurotic and, hence, eliminate the cause of his neurosis.

2. In the true traumatic neurotic—the second class—the desire factor has been eliminated and he has a year in which to make mental and nervous adjustments.

3. In the third group, with mental conflicts not related to the accident, such an award is more than the case is entitled to from an industrial standpoint and, in any event, the amount involved is not so large that it penalizes those suffering from real injury and disability.

If the neurosis persists in the same form one year after date of permanent award, no additional award is made—it being assumed that cases of classes one and two would have recovered and that any residual neurosis is due to some mental conflict not connected with the accident and, hence, not influenced by the termination of the litigation.

CLINICAL INDICATIONS FOR BLOOD TRANSFUSIONS.

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(Read at the Staff Meeting of St. Joseph's Hospital, Phoenix, February 12, 1934.)

Today the transfusion of blood to patients in need of such therapy, rests upon a sane and comparatively safe basis, and in many cases is life-saving. It will be the attempt of this paper to treat this subject on a rather broad basis, perhaps without enumerating each and every specific disease in which this procedure might be useful.

Someone suggested, a few years ago, that the indications for giving a patient blood rest upon the necessity of restoring lost or impaired body tissue (considering the blood as a tissue) by a homologous transplant from one person to another, so that one might, in a broad

sense, consider transfusions as necessary in most pathological conditions which alter the quality and quantity of the blood to such an extent that it is unfit to fulfil its physiological duties.

Investigations and experience have shown that blood transfusions tend to meet the needs of a number of conditions that arise during different types of illnesses, and at this point we shall review some of these needs. Transfusions tend to restore the quantity of the circulating fluids—an obvious fact, and its value in certain circumstances along this line is beyond discussion. The indications for restoring volume can be judged best on clinical grounds, on the signs and symptoms of collapse and shock after hemorrhage. Unfortunately, to date there is no rapid method available for the measurement of blood bulk, but in addition to the clinical signs and symptoms, and estimation of blood pressure, red-cell count and hemoglobin determinations will help in a decision. However, after hemorrhage, experience shows that a decision on clinical grounds alone is not, usually, a great difficulty, so that the importance of restoration of blood bulk by transfusion arises in practically all severe acute conditions of rapid hemorrhage.

Blood transfusions provide oxygen for the tissues and materials for the special functions of the blood. This effect, consequently, is of importance, not only in cases of acute hemorrhage, but also in many cases of chronic anemia, no matter what the cause. It is sometimes difficult to know just when to transfuse in conditions producing chronic anemia, but I think it is well to set an arbitrary figure, especially where surgery is indicated. One can arbitrarily set the figure of 3,500,000 red cells as perhaps a dividing line between transfusion and no transfusion, feeling that transfusion should be done in cases where the figure is below that amount, and contemplate a transfusion in a patient who is going to have surgery. This method of treatment will help get a surgical case in better general condition, it will lessen the operative risk and shock, and will speed up recovery. It will help to combat shock from blood loss during an operation.

Another effect of blood transfusions may be to increase the blood coagulability, and indications for this procedure arise with certain types of diseases. However, let me say at the outset that there is no substantial proof that transfusions have an appreciable effect on the coagulability of the blood, but, as I shall attempt to show, this fact should not cause us to cease to use them when the need arises. One cannot say that hemorrhage or anemia has any influence on coagulation of blood or the coagulation time, and we cannot expect transfusions to change this fact. Recent evidence points to the existence of some factor or factors disposing toward the occurrence of hemorrhage from some site, these factors being perhaps unknown at the present time. These factors may influence the spontaneous development of hemorrhage from some site, and in this connection I am thinking of many of the rare types of blood dyscrasias, hemorrhagic diathesis, and primary purpuras, which are occasionally seen, little understood, and difficult to cure.

This unknown factor or these factors are independent of coagulation time, the number of platelets, the bleeding time, or the capillary permeability; but they may well be associated in some way with the amount of fibrinogen in the blood, and the softness of a blood clot formed. Transfusions of blood in this connection must add to the proportion of fibrinogen present in any clot formed subsequent to the injection. The bleeding-time test is a valuable test in certain of these forms of hemorrhagic diathesis, indicating, as it does, the existence at the moment of the tendency to spontaneous hemorrhage. It does not appear to be related in any way to the blood pressure or to the degree of anemia. The bleeding time is found to be normal in many active hemophiliacs. The increase in the number of blood platelets after transfusion agrees with the bulk of the blood injected; but the platelets in anemia rarely fall to a level which can influence the occurrence of clotting or hemorrhage, except in special forms of hemorrhagic diathesis and severe toxemia, and conditions in which spontaneous hemorrhage occurs. So, even with the knowledge that transfusions of blood many times do nothing to alter the ability of the blood to coagulate, it must be remembered that the active hemorrhagic state in a patient, when there is a tendency to bleed spontaneously or after a trivial injury, may cease as suddenly as it undoubtedly commences. Consequently these patients must be kept alive as long as possible.

as spontaneous cure may take place at any moment. The effect of blood transfusion in adding blood to the circulation in these cases is thus of value, and is indicated in all acute cases. Even in hemophilia, investigators agree that the coagulation time in active hemophilia is temporarily shortened by transfusion, with, many times, the checking of hemorrhage. This effect, however, is transitory, but may be sufficient to arrest an alarming hemorrhage.

Again, transfusions are useful for stimulating the hematopoietic organs, or to give them a rest, as the case might be. We all know that, when there is an excessive call upon the reparative functions of an organ, that organ may give up the attempt to respond. It is rather that it conserves its powers for a more suitable opportunity, instead of wasting its strength in doing what is not enough to be effective. In regard to the blood, this fact is well illustrated by what occurs in the restoration of the bulk of fluid after an acute hemorrhage. It may be said that the loss of 25 per cent of the fluid is rapidly repaired. In the loss of 50 per cent there is little attempt at restoration: but if 25 per cent of the volume is added, the reparative processes come into play to replace the remaining 25 per cent. The same principle applies to the hemoglobin and the red cells, that is, the hematopoietic tissue, and it must be remembered that the hematopoietic tissues themselves must be nourished with blood. So, again, we are confronted with an indication for blood transfusion, in each and all cases where the hemoglobin or red cells, or both, are too low. Certainly, in chronic anemia from any cause, it is advisable to transfuse if the hemoglobin is below 25 per cent. In more recent years, a more liberal view is being adopted, so that individuals with anemias with between 25 and 50 per cent hemoglobin, can be saved much chronic debility and ill health by an initial transfusion.

Blood transfusions can be relied upon to help restore blood pressure, but a low pressure is due to hemorrhage. Let it be said that transfusions serve no particularly useful purpose when given for postoperative or other types of shock when blood loss itself has not been a factor. The beneficial effect from a rise in blood pressure in collapse after hemorrhage, need not be discussed here, but it has been suggested that the use of transfusions to raise blood pressure in such conditions as a bleeding gastric ulcer might increase the tendency to further hemorrhage or displace an unstable blood clot. The blood in these cases no doubt will be unduly soft, and the transfusions may not affect the coagulation time. Consequently, it cannot be denied that a blood transfusion will tend to place an increased strain on the blood clot at the site of the hemorrhage. Any further clot formed will, however, be of greater stability, and it is the general impression that recurrence of hemorrhage does not occur with greater frequency after transfusion in such circumstances. Recovery from collapse due to hemorrhage necessarily involves a rise in blood pressure, whatever the line of treatment, whether it be heart stimulants, intravenous glucose or saline, or whatnot; so the argument against transfusions is not very strong.

It is generally agreed that transfusions of blood are of no particular value in increasing the resistance of an individual to infection, because of antitoxin or bactericidal properties in the blood. However, with the recent new developments in the use of immuno-transfusions and convalescing blood-serum in patients suffering from such diseases as scarlet fever, anterior poliomyelitis, measles, and so forth, there is opened up an entirely new field for transfusions and serum injections. This avenue for the use of human blood offers hope for new adventures in the curing of disease. In the field of immunotransfusions, donors prepared especially by injections of specific antigens are finding use in therapeutics of certain types of infections, so that patients can receive passively immune bodies through blood transfusions. Again, in passing, indications are found from time to time for auto-transfusions, in such cases as hemorrhage into the abdomen from ruptured viscera, ectopic pregnancies, and so forth, where some of the extravasated blood can be gathered up, strained, and reinjected into the patient. This procedure is especially valuable when there has been no time to type blood or get a donor, where the need for increasing blood volume is imperative to save life.

In the field of pediatrics, blood transfusions are indispensable to good practice. In many bizaare hemorrhages of the newborn, in melena neonatorum, the intravenous and intramuscular injection of blood is invaluable, and

equally effective at times. In the hemorrhagic diathesis and primary purpuras, cessation of hemorrhage rarely follows transfusion, but this treatment must not be rejected, since the criticism of inefficiency can be applied to all other methods of treatment also. Furthermore, one occasionally is successful. It must be remembered that the active hemorrhagic state may cease as suddenly as it commenced, consequently these patients must be kept alive as long as possible. Again, transfusions are indicated in cases of inanition, malnutritions, athrepsias, and secondary anemias attending such causes as acute or chronic gastro-intestinal infections, diarrheas, and other malnutritions. Transfusions are valuable in anemias of chronic bronchitis, bronchopneumonia, pyelitis, and other debilitating complications of such diseases as scarlet fever, measles, pertussis, and the like. Also in the preoperative care of mastoiditis, sinus thrombosis, and empyema, blood transfusions are indicated. Many other types of infective and nutritional diseases are benefited by transfusions.

In surgery, general or special—as brain, thoracic, abdominal and pelvic, in addition to traumatic emergencies—many times the introduction of blood is clearly indicated, and perhaps life-saving. This type of treatment can be used to treat hemorrhagic shock, in preoperative treatment to help strengthen the patient, build up the quality and quantity of the blood, and to make better surgical risks. Such is the case before cancer operations, thoracic surgery, jaundice, prostatic surgery, pelvic operations of various types where hemorrhage. infection, and anemia are factors in helping to make poor operative risks.

In chronic sepsis, transfusions have an especially useful function, as in osteomyelitis, and the like.

In obstetrics and gynecology, indications arise frequently, as in the anemias accompanying parametritis, endometritis, chronic suppurating tubes, puerperal infections, infected abortions, ruptured ectopic pregnancy, postpartum hemorrhage, incomplete abortions with shock, and the like.

In medicine, and other lines of practice, we have already alluded to the hemorrhagic diathesis and purpuras. In leukemias, transfusions are indicated, but cannot be counted upon to effect a cure, and the only advantage in giving them is to cause the patient to live longer, which, in itself, might be of some convenience. The same can be said of Hodgkin's, and similar rare maladies. Indications for transfusions are found in aplastic anemia, where it is impossible to be certain upon examinatioin of the blood that the bone marrow is progressively and hopelessly aplastic. Transfusions and repeated transfusions are positively indicated in these cases. In pernicious anemia, cases relapse sometimes owing to carelessness of treatment, and these can be given a boost and fresh start by transfusion. Or, at the start of a severe case, at the time that other forms of therapy are instituted, a blood transfusion is useful. The same can be said of splenic anemia. Investigations have proved the value of this procedure in von Jackson's anemia, sprue, blackwater fever, agranulocytosis, malignant malaria, and many other chronic recurring infections, with anemia. Causes of severe poisoning from gas or other forms of inhalation vapors or ingestion of certain coal-tar derivatives, find themselves improving after transfusion. Mosenthal has proved the value of this procedure in chronic Bright's disease, and is using it to treat uremia attending renal insufficiency, to relieve the severe anemia of these cases, and as a means of combating edema by raising the osmotic pressure in the circulation through increasing the proteins of the blood. The results in acute blood-stream infection where anemia is not present, have been somewhat disappointing, although in some types of sepsis, the use of transfused blood is a most valuable weapon. The replacement of a large amount of blood from exceedingly toxic patients by fresh blood is a valuable procedure in such cases as severe burns, and the like. Severe anemias in debilitating chronic colitis are being treated by transfusions, with improvement in many cases. One could go on and on enumerating the indications for blood transfusions, but perhaps sufficient have been named to show the ever-widening usefulness of this valuable procedure.

BRAIN INJURIES

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The subject of craniocerebral injuries has become one of vital importance to every practicing physician and surgeon, especially with the increasing accident rate due to the improved highways, allowing the ever-increasing number of motor vehicles greater speed; the unguarded and disregarded railway crossings, aeroplane accidents and the industrial accidents. Inasmuch as the greater portion of these accidents do not occur in the cities, a good many of them are daily entering the hospitals of the smaller communities and country districts. Therefore, it behooves every medical man to be alert and well-informed in this particular field.

In the past, head injuries, in general, have been considered as belonging in the field of general surgery. However, a very small percentage of them require any real surgical attention. Such cases as compound skull fractures, serious hemorrhages, either intracranial or extracranial, and fractures with depression of fragments are, of course, real surgical problems and often require operative procedure.

In traumatic surgery, craniocerebral injuries have been divided into two types: those that should be operated upon, and those that should not be operated upon. The injuries that should be operated upon fall into three classes:

1. Middle meningeal hemorrhage, either subdural or extradural.
2. Simple or compound fracture with bone pressure or bone fragments in the brain.
3. Cases in which there is a rapid increase in intracranial pressure not amenable to other forms of treatment.

Extradural hemorrhage is caused by the line of fracture crossing and tearing the middle meningeal artery in the temporal region. The hemorrhage develops steadily and rapidly and as it progresses the dura is stripped from the skull, thus producing additional bleeding where branches of the artery cross from the dura to the bone. This is the one type of head injury which demands prompt and effective treatment but if recognized and treated correctly most of the cases can be saved. However, if left untreated or if treated carelessly, there is little hope for such injuries. The one and only treatment for hemorrhage is to remove the clot and tie the middle meningeal artery. As it is very difficult at times to determine when you have a middle meningeal hemorrhage the three following symptoms should be kept in mind: An interval of consciousness before a gradually deepening coma; a gradual paralysis of the face, then the arm or leg; convulsions, beginning always in the face and spreading to the arm and leg. It is likely, however, that all these symptoms may be absent or they all may be present in primary injury of the brain.

Simple or compound fracture with bone pressure or bone fragments should be operated upon. A careful examination is made by probing with a gloved finger for fragments that may be depressed. Frequently fragments are overlooked, hence causing much future trouble for the patient. If the patient's condition permits, good stereoscopic radiographs will disclose these fractures.

The non-operative cases of brain injuries are:

1. Extensive brain injury with laceration and separation.
2. Injury in which there is no primary increase in intracranial pressure, but which usually develops this later, due to an accumulation of fluid and edema.

Included in this class are simple non-depressing fractures and so-called cases of concussion. Injuries in which there are extensive lacerations and cellular separations reach a rapid stage of exhaustion and medullary paralysis. These massive types of brain injuries are fatal and no treatment is of benefit. They pass rapidly into a state of coma and death soon ensues.

The second type under this classification, fortunately, is the more common and encouraging type of injury so far as treatment and prognosis is concerned, and seldom is an operation indicated. The case presents a dazed or semi-conscious condition. There is no marked

shock; blood and spinal pressures are normal or slightly raised. Radiographs reveal nothing, or possibly a slight linear fracture. The eye grounds are negative. The pulse and respiration are normal. There is a picture of definite brain injury with no indication for surgical intervention. All of you have probably seen these cases and know that, within twenty-four or thirty-six hours, the majority will show symptoms of delayed or secondary increased intracranial pressure characterized by a slowly increasing pressure, decrease of pulse rate, increase in temperature and restlessness and approaching coma. These cases are usually responsive to proper treatment.

Although there are many methods of treatment for cranial injuries, much depends on the condition of the patient. Upon admission to the hospital, the patient is in a condition of shock. This is determined by subnormal temperature, low blood pressure, increase in pulse and respiratory rate, cold and clammy extremities. The patient is immediately placed in bed for rest and quiet; warm, dry clothing replace their garments and heat is applied externally. Sedatives are administered in the form of atrophine sulphate, gr. 1/100 (adult dose), pituitrin (surgical) 15 min. hypodermically, strychnine, gr. 1/30 hypodermically. The purpose of this treatment is to prevent further loss of fluid from the skin surfaces and hence conserve the fluid needed to maintain blood volume which is so necessary in shock. The stimulants are directed toward vasoconstriction of the peripheral circulatory bed, thus improving diastolic pressure, favoring better oxygenation and correcting the vasomotor dilatation associated with shock. Cardiac stimulants are not needed as the heart is active enough. Caffeine sodium benzoate and adrenalin are temporary violent stimulants which should be used only as measures of last resort, or to temporarily tide over a failing circulation. Morphine is resorted to only when absolutely necessary.

A hypertonic glucose solution is given intravenously,—usually 40 to 60 cc. of a 50 per cent solution. This has the very valuable effect of withdrawing from the tissues and cerebrospinal reservoir fluid which is utilized to increase blood volume. The increase in blood volume tends to raise the blood pressure, circulation approaches normal and the pulse improves. Should it be necessary, glucose may be repeated in four hours. It is often effective to add 50 to 150 cc. of saline solution along with the glucose where shock is severe. Although the giving of saline promptly combats the period of shock, it also promptly precipitates cerebral edema and intracranial pressure and for that reason the giving of it in large quantities has been abandoned.

No examination should be permitted to disturb the patient other than the few emergency requirements such as control of bleeding points of the scalp, the probing of a gloved finger to determine presence of fracture and the cleansing of the wound with antiseptics. If there is bleeding from the ears or cerebrospinal fluid leak, the ear is carefully cleansed and tampons soaked in dichloramin-T or two per cent mercurochrome inserted in the external auditory canal. If bleeding from the nose is persistent and requires attention, a finger cot packed with gauze strips and moistened with mineral oil is introduced into the nasal cavity on the side of the bleeding. X-ray examination is not considered at the time of shock unless a compound fracture is evident by the initial inspection, or depression, sufficient to be recognized easily and severe enough to justify it. Then, sometimes diagnosis is made without x-rays. The whole attention is directed toward the immediate treatment of shock and instituting active measures to prevent secondary cerebral edema and intracranial pressure.

During the period of shock the temperature, pulse, blood pressure and respiration should be recorded every fifteen or thirty minutes for the first few hours for they are of great diagnostic aid. When the temperature returns to normal or above and when the pulse diminishes to the neighborhood of 120, then the period of shock has passed. If the pulse has been below 120, the index as to the period of shock is determined by the temperature record.

Lumbar puncture is performed as soon after the period of shock as possible. It is of great diagnostic value as well as relief of intracranial pressure. Much depends upon the character and pressure of the spinal fluid and treatment is carried out accordingly. Bloody spinal fluid is the strongest evidence that operative exploration is not warranted or will be of little avail, although occasionally combined

subarachnoid and subdural hemorrhage occurs. When the fluid is found to be bloody, a complete drainage is necessary, for it has been clearly shown that the red blood cells produce intense reaction in the subarachnoid spaces and they tend to stop up the normal pathways and filters for proper elimination of cerebrospinal fluid. Therefore, spinal drainages should be instituted daily, or oftener if necessary, until the fluid is clear; then drainages are resorted to as often as a rise in the pulse pressure and respiratory changes may indicate. If the spinal fluid is clear with a pressure of 14 mm. Hg. or over, one should seriously suspect the possibility of an expanding lesion and carefully watch for signs which establish the presence of subdural or epidural hemorrhage.

Dehydration begins with the first spinal drainage, when, if possible, 30 to 80 cc. of fluid is removed. The fluid intake and output are measured, and the diet consists of a dry, solid one with the total fluid for the twenty-four hour period limited to thirty ounces. Should the patient's condition require a soft or liquid diet, this form of nourishment must be included in the total liquid allotted for the twenty-four hour period. Thirst, being an early complaint, is easily controlled by warm antiseptic gargles, moistening the lips with mineral oil or vaseline and by giving small amounts of fluid at regular intervals. Fluid restriction, however, is altered by the presence of blood in the spinal fluid. In that case, it is necessary to allow additional fluids to prompt the reaccumulation of cerebrospinal fluid for subsequent drainages.

Dehydration may be aided by the introduction of 50 per cent glucose, intravenously, followed in one hour by magnesium sulphate by mouth or rectum. The glucose tends to draw fluid from the tissue spaces and subarachnoid system in the direction of the blood stream. This fluid will reenter the tissues if not removed from the body, thus the magnesium sulphate will recapture this fluid and eliminate it entirely. There is one contraindication to the use of magnesium sulphate; if blood volume is already diminished by hemorrhage, dehydration or through shock, it is not wise to further deplete this necessary circulatory system by the use of magnesium sulphate. It is far better to build up the blood volume again by introducing small amounts of normal saline solution by vein and resort to lumbar drainages for the control of the over-accumulation of cerebrospinal fluid in the subarachnoid space. Magnesium sulphate should never be administered during the period of shock.

During the ten days or two weeks following the period of shock, lumbar drainages and the required sedatives to insure quiet and rest are, of course, continued. During this period further examinations may be carried out, such as x-ray studies of the skull made for a permanent record; a lumbar puncture with careful manometric pressure readings recorded for future reference in the case. A careful study is made of the patient for any neurological development, for we feel that all head injuries have a neurological significance and must not be overlooked.

Particular attention should be given the reflexes, the signs of focal hemorrhage, cerebritis or trauma and special reference should be made of the pupil, especially as to the size, reaction to light and the presence of hemianopsia. Dilatation of the pupil usually indicates the side on which the extravasation of blood is the greater. Deep tendon reflexes are usually lost during the early period following trauma but promptly reapper and should be noted from day to day.

Aphasia is one of the most important signs to be considered. The differentiation between aphasia and stupor must be determined early in the examination. Aphasia may be demonstrated by applying pressure upon the supra-orbital nerves. If the stupor is profound, no reaction is obtained. In patients who are aphasic and semi-stuporous, the physician may determine by this reaction whether or not there is weakness in the motor supply to the lower third of the face, when the patient is not able to respond or cooperate. When the patient is aphasic and though paralysis of half of the body is present, the patient will make an effort to remove the pressure, thus giving evidence of knowing where the pain is located. If the patient is stuporous, however, struggling is present in an effort to get away from the painful stimulus but no coordinative movements are made in which to remove the pressure or to locate the source of pain. Frequently patients have been thought to be in a state of unconsciousness when they could neither understand nor reply. This sign of aphasia is of

great localizing importance as it indicates a lesion in the sylvian area on the left side in a right-handed individual.

When a patient is dismissed from the hospital, he is given careful instructions relative to fluid intake for at least the following three months.

Case No. 1: L. L., white school boy, age 8, was admitted to the Leo N. Levi Memorial Hospital on September 26, 1932, following an injury of the head he received when he fell from a tree, striking the left parietal region on a rock. He was brought to the hospital in an unconscious condition. Past history of no importance. Physical findings: Male child, lying in bed, appearing somewhat drowsy. Examination of the head revealed a long irregular depression extending from the left parieto-occipital region anteriorly over the lateral aspect of the scalp toward the parietal and frontal regions. On each side of this depression the margins of the skull are distinctly palpable. The posterior termination of this line of fracture is evident by a stellate-like extension of the line of fracture in different directions. Over the frontal bones there is a diffuse area of skin which bears a bluish and greenish discoloration. Otherwise the head was negative. There was no clinical evidence of injury or increased intracranial pressure. Shock was treated as outlined; fluids restricted and he was confined to bed for fifty days after which time he was allowed up about the ward. The afternoon of the first day up he complained of pain in the head; this was followed by vomiting. He was then confined to bed for an additional period of two weeks. He has continued the "dry' diet with fluids restricted to 30 ounces within the twenty-four hour period.

Case No. 2: H. G., white male child, 3½ years of age, was admitted to the hospital on October 9, 1932. Forty-eight hours prior to admission patient fell from a load of cotton, striking head on concrete. Father states that the child was unconscious for about an hour following the fall. Since then patient has ta ked and acted normally with the exception of standing and walking. Head could not be held erect. Patient has slept almost continuously since accident. Physical examination revealed a young white child lying in bed apparently not actually ill. Examination was essentially negative with the exception of head which revealed a slight depression or concavity over the left lateral portion of the occipital bone (site of injury, supposedly) but there was no other external evidence of trauma in any region of the scalp. X-ray of skull was entirely negative. On sitting up patient sways from side to side but tends to fall mainly to the right. On standing, the swaying is exaggerated and the same tendency to fall towards the right is noted. Walking is very unstable and the patient promptly loses equilibrium and falls.

This case is reported to show the amount of actual brain injury that can occur without visual injury to the cranial vault. Especially interesting is this case and the cases reported with severe vault damage without brain injury as both were admitted within ten days of each other.

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PASSIONAL PSYCHOLOGY. Dr. Jacobus X. The American Anthropological Society, 70 Fifth Avenue, New York, 405 pages, $4.00.

This is a sequel to three previous works, to which the reader is referred as a proper foundation for this treatise. In this volume is resumed the study of the physiology and psychology of the sexual life, and the distinguishing features of the psychology of love in comparison in the two sexes. This is an interesting study in view of the present day demand for equality of man and woman in practically all phases of life. The author has resorted largely to quotations from other writers and observers, and these are supplemented by his own conclusions and opinions. While the work is of limited interest, it should be of value to students of psychiatric problems and instructors in psychology. —H. P. M.

MENTAL MECHANISMS

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(Read at the meeting of the Los Angeles Society of Neurology and Psychiatry, April 19, 1933.)

Much confusion still generally exists regarding mental and nervous disorders. Many terms and words are used to describe their various symptoms and syndromes, but in general there are two different viewpoints regarding the problem, which might be described as neurophysical or psychological according to whether we think the "nerves" or the "mind," including the feelings or emotions, are at fault.

From the neurophysical viewpoint patients are usually classified as "organic" or "functional," the latter probably being present in larger numbers, but considered unimportant, though they are economically responsible for an incalculable amount of social inefficiency and domestic infelicity. Their treatment usually falls under four types: (1) the exhortatory, in which relatives, friends, and advisers admonish him to "pull himself together," "it is only imagination," "there is nothing the matter with him," and recommend work, discipline and long trips. (2) Medical, with the use of sedatives, colored tonics, endocrine therapy indsicriminately as a panacea, or a multiplicity of remedies of suggestive value, but often disclosing uncertainty, with development of increasing symptomatology in the patient. (3) Rest and diet, of which the Weir Mitchell rest cure was the extreme example, and has a limited value as a panacea. (4) Final or dismissive, in the form of a sea voyage or change from an environment which has proved too difficult. Pursuit of this course frequently would test the most able but may, by relief of responsibility, lessen symptoms, particularly in delaying a paranoia in the early stages.

Too frequently, however, any of these methods of treatment drive the patient to the cultist and quack, who make large claims pseudoscientifically, which the unrelieved patient is glad to clutch in hope of any relief from intolerable symptoms, mental conflict, fears, distress and pain as incapacitating and unbearable, or often more so, than physical pain.

Methods, psychological in character, were offered later and may be said to have begun with Charcot, who built so well in organic neurology, and also laid the sound foundation for the scientific study of mental phenomena. Bernheim's researches into the nature of hypnotism, the more modern formulation of pithiatism by Babinski, and the advances in psychological approach made by Janet in the dissociation of ideas or personality, all added greatly to the knowledge of mental mechanisms.

Wundt and his co-workers attempted to explain normal behavior in terms of neural mechanisms. Pavlov's work, also in physiological psychology with conditioned reflexes, attempted to interpret the etiology and symptomatology of the neuroses. Watson's behaviorism is an extension of these same principles. All these attempts at interpretation of mental mechanisms represent an organic, biologic approach, and it was reserved for Sigmund Freud to formulate a purely psychological concept of the etiology, development and treatment of the neuroses. This conforms to the methods by which the greatest advances in medicine have been made, through etiological research, by analytical investigations, tracing back from symptoms to cause, and allows application of a general scientific technic in an attempt to understand disorders in psychological medicine as pathology forms the basis in general medicine. An insight into and understanding of the mechanisms of the neurosis, and also the psychosis is offered by analytical psychology, with assistance and definite help in their treatment, of inestimable value.

Regarding applicable treatment, it is necessary to know cases which are suitable for different treatments. In some psychopathology is not of primary importance, but in any, must not be considered unimportant. In fact, no matter what the illness—the personality, with all its attributes—the status, training, environment, problems, tendencies of mood, must be given consideration for best success in treatment, rather than treating the patient as a case number, or as a scientific disease entity.

Mental and nervous disorders which may not need special investigation of the psychopathology may be classified as (a) fatigue states, (b) toxemias, (c) endocrine disorders, (d) disorders due to shock, as thunder, primarily organic, but which may be causative later of psychological pathological conditions,

(e) disorders due to environment, as seen in workers exposed to excessive noises, undue fatigue, monotonous repetition, or other health hazards.

CASES REQUIRING PSYCHOLOGICAL TREATMENT.

Insomnia, if neurological, is a failure of neural integration, and the patient may respond to sedatives, but in some there may be presented underlying problems in psychopathology—hence intractable to any treatment but psychological. Here the insomnia becomes useful—the symptom is purposive even though it may be quite dissociated from behavior.

The Nervous Temperament. Integration of the nervous system normally occurs with growth and development; for example, enabling the baby to walk and later develop finer movements of the hands and to speak. Failure or delay is a sign of hereditary defect.

The nervous temperament usually described as "highstrung" shows disabilities which may be divided, as: (1) failure of integration; the nervous system, — physical, emotional, and mental—fails to work together in harmony as a single unit; (2) over-sensitiveness to stimulus, especially fear, in those who are oversusceptible and more acutely subject to disturbances; (3) inadequate or indeffinite responses to stimulus. In this type of response there is difficulty in responding adequately or definitely, either due to lack of primary dynamism, or an uncertainty as to the course of action indicated, resulting in increased excitability, and life is made a problem, with a tendency toward instability. In these patients, adjustment is often made through symptom formation to the challenge of reality. The symptoms are therefore purposive, and only from this viewpoint may therapy be successful. It is in these patients that conversion symptoms frequently appear, as tics, pareses, or other incapacities prohibiting continuance in an unpleasant or monotonous, dissatisfying occupation or environment.

DYNAMIC PSYCHOLOGY.

The conception of "purpose" is essential to understanding the dynamic aspect of modern psychology. Purposive behavior, of the different organs of the body, may be traced both in health and disease. The ordered development and specialization of function of the physical organs may be considered as being purposive; in the alimentary tract, digestion and its other usual functions; in the nervous system, inhibition, control, selection. The organization of the body as a whole depends upon harmonious action of its various functions, a coordination of the purpose of each unit system (into a single team) under control of the central nervous system. The purpose of the whole unified system is to produce greater order, freedom, and power over the external environment in which the system lives. Purposive behavior is further shown in organic medicine, for example in local infection from a septic foreign body, with resultant inflammatory reaction in a purposive attempt to remove it and act remedially. There is no consciousness of purpose in this response, and it is important to realize **consciousness is not necessary for behavior to be purposive.** Not all "behavior" is purposive, however, as in neoplastic growths or tremor which is secondary to or resultant from a deeper cause, where symptomatic treatment may be applicable, but if such treatment be applied to psychological medicine, where purposive disorders are far more commonly found, results are necessarily disappointing.

The personality as a whole has certain primary needs, which are sought purposively, though not necessarily consciously. Most important of these are: (1) love, a feeling of priority; (2) protection, a feeling of security; (3) power, a feeling of control. Consideration of cases will show the degree of satisfaction along these three lines which may be attained through illness. The purpose of the disability is to achieve what the patient wanted or needed, whether he was conscious of it or not. The illness was a means to an end, and the end was love, protection, power, any or all. Hence it is not true to say the patient wants his illness as such, but as a means to an end. He wants what he gets out of the illness, and not, as a rule, any particular symptom. He is not conscious of his need, but love, protection, and power are goals which human nature is preordained to pursue and find attractive. Thus, frequently a symptom undesirable in itself, is developed in order to attain a goal which is desirable. Also, conflict plays a part, wishes may not be socially tolerable or even consciously acceptable. Social adaptation is of comparatively late development, is superimposed upon childish egotism, and there is fre-

quent conflict between "heart and head," between feelings and thoughts, of many of which we are unconscious. The extension to which behavior is motivated by unconscious processes is not realized. On the physical plane inflammation is a purposive unconscious process, and on the emotional plane conversion hysteria is another example of a similar unconscious process.

Man is more than the sum of his own experiences and his behavior is often motivated by past primitive, racial and childish instincts and wishes which are not tolerated by his higher reason and conscience. They are, consequently, "repressed," but still remain dynamically active, and therefore give rise to "conflict" and often to subsequent symptom formation. Consciousness is all of which we are aware, but does not contain all our motives. Consciousness as a whole, however, is unified in a way that pleases our standards, by "rationalization." It looks deceptively complete, and this deception in itself is purposive in affording both justification and an organized simplicity and unity. Rationalizations are liable to be defended with great emotional intensity—the latter usually being indicative of the existence of the former. Purpose or wish fulfilment may evade reality altogether and achieve the desired end in "phantasy" which is pathological. Adaptation is wish fulfilment through reality, and phantasy is false adaptation. Being a purposive and progressive detachment from reality, it is a fundamental factor in the development of psychoses.

THE WAY THE MIND WORKS.

Knowledge regarding development of the mind, and composition of its parts gives a better understanding of symptomatology of mental disorders. Mind is more than consciousness, and includes the basic energy of life, the wishes and feelings, instincts and emotions, which existed prior to the development of a differentiated awareness, and, therefore, need never enter consciousness any more than do the normal activities of physical functions, such as digestion. Accepting the word "mind" in this larger meaning, there is no inherent contradiction in the phrase "unconscious mind."

The development of the mind may be traced from its primary function of serving by selection and inhibition, as a coordinative cell station in the medullary ganglia, through successive phases of developing self-awareness, self-expression, and self control. The highest levels of consciousness, associated with the most developed superficial cerebral cortex, are inhibitory to the deeper levels of instinct, feeling, and impulse which are more closely associated, however, with the intermediate picture thinking level of the deeper cortex.

The predominant importance of the picture thinking level may be seen, with differences, in savages, children, and in genius, but particularly in neurotics. It forms the basis of gesture and language, especially mythology, poetry and slang. It determnies the use and meaning of symbolism, and possesses advantages of simplicity, economy of form, and being an accepted vehicle for expression of feeling. Picture thinking requires interpretation, however, wherein lies danger that it may be regarded from the superiority of consciousness as childish and ridiculous, or blindly accepted without interpretation. This failure to interpret symbolism and to differentiate feeling is the chief characteristic of all forms of mental disorder.

Dreams and symptoms both illustrate the same picture making activity, and require interpretation in terms of their feeling value before they can be controlled or understood by consciousness. The apparently ridiculous vagaries of dreams and the disordered behavior of insanity both need to be interpreted as a foreign language of simple picture forms and associated feeling tones, when they are found to be inspired by motive and pregnant with meaning. Such interpretation opens the way to deeper understanding of motive and behavior, but does not necessarily eliminate the motive itself, which must be modified or redirected in some way agreeable to the higher dictates of consciousness before harmony of thought and feeling can be attained.

MIND: ITS EVOLUTION.

As we learn by experience, there are important causes of error in our judgment. The importance of "this, now" is over-estimated, instead of realizing it is the apex of a pyramid of past experience, association by similarity and difference, the base of which lies deep in the past, far beneath consciousness. Further extension of this difficulty occurs in relation to symbolism—the effect appropriate to one

thing being transferred to things similar, but also to all symbols of it, which may be quite different and ridiculously inappropriate. Thus, fear of being punished (the effect) may become transferred from experience of father (the source of the feeling) and firmly attached to thunder (the symbol of wrath) and we are wrong, having developed a "thunder complex."

Any intense emotional trauma may give rise to a strong effect which, through persistence, may become attached to a later experience to which it does not correctly apply. A common example of such transferred effect occurs where a premature sexual experience has precipitated a strong feeling of fear and guilt, which later becomes attached to all subsequent sexual experience. Wrong feelings cause false judgments and application of the lesson of a single experience too generally may create a "complex." The commonest, subtlest form of trauma is found where there is not one but many injurious experiences, as, repeated bullying by the father, or spoiling by the mother, which may create an inferiority "complex" by application of the inferiority feeling to all subsequent circumstances, to which it does not apply. Another source of error in regard to our judgment of "this, now," results from our feeling values not being derived only from personal experience, but anatomically, physiologically, and psychologically, one is recapitulating at different times, the essense of the sum of racial experience.

DEFENSE MECHANISMS.

Fear, guilt and **inferiority** are the three basic feeling patterns which lie at the root of a great deal of subsequent mental disorder. They are primarily independent of individual experience, although they may be modified or exaggerated during the lifetime of the individual. In general, they are universal feeling tendencies, are intolerable, and quite unconsciously, we all do our utmost to overcome them by defense mechanisms. Growth and a sense of humor are the psychologically desirable methods of overcoming their resultant feelings of intolerable tension, but our defense mechanisms tend to operate automatically and unconsciously, with results that are not always either desirable or successful. Overcompensation provides a sense of power at the expense of making undue demands upon capacity; projection places the blame elsewhere than upon ourselves, causing interference with the liberties of others, who are often in much need of defense themselves; and identification lends a vicarious satisfaction in the lives of others, but tends to release emotions in propaganda or partisan attachments. The disadvantage of defense mechanisms lies in the fact that the fundamental feeling state is liable to remain unaltered.

The causes which stimulate fear are essentially experiences which give rise to a feeling of inadequacy—the sudden, the unfamiliar, and the threat of punishment. The resultant explosion, however, may be far greater than the immediate experience merits, owing to the added influence of transferred affects. Phobias are examples of such feelings of fear transferred to more or less innocuous symbols, which owe their significance to previous personal or racial experiences.

The more important defense mechanisms against fear are: inertia, which prserves the safety of the status quo; regression, which seeks the reverse goal of infancy and maternal protection; overcompensation, which attempts camouflage by overactivity, as shown by the bully, the bluffer, and the braggart, a sign of weakness and masquerade of strength; and apprehension, which clutches feeblest hopes of security, at every straw of material protection imaginable.

Guilt and inferiority are primarily inborn, but may be modified by experience. Excessive guilt feeling tends to inhibit the satisfaction of all desire until the chief motive is to avert punishment, evidenced in a mild degree in superstitious behavior and pathologically in the obsessional neurosis. Defense mechanisms appearing are repression, overcompensation, projection, identification, and self pity, evidenced by sacrifice in primtiive races, and by the castration motive in neurotics, as an act of self-deprivation and self-punishment, which may result in severe physical damage and self-destruction in the psychotic.

The causes of inferiority feeling may be classified as, (1) hereditary, (2) acquired; (a) infantile, tendency for first impression of inferiority to remain throughout life; (b) circumstantial, position in the family, age intervals, domestic environment; (c) organic, (A) conscious, e.g., size, squirt, paralysis, (B) un-

conscious, gonad deficiency, cardiovascular hypotension. The common defense mechanisms are overcompensation, projection, identification, and the wish to be inferior, self-gratification with masochism and regression as motives, the willing martyr resulting.

WISH FULFILMENT.

Psychologically, the energy of life comes from motives and emotions which are inhibited, modified or expressed through the selective filter of consciousness. One motive satisfied will give pleasure, but to achieve happiness all motives must be directed in harmony towards the single goal of the unifying ideal. The variety of possible motives leads inevitably to conflict, frustration, and loss of mental efficiency until the unifying goal can be discovered. Frustrated wishes tend to cause irritability, temper, depression, cynicism, or a resort to the easier path of fulfilment in phantasy, lying, or stealing. The great inhibitor of impulse is conscience, which is in itself an example of unconsciously motivated behavior and as such a very unreliable guide, being derived largely from superstition, vanity, suggestibility, and fear. Many mental problems are due to overwhelming conscience, rather than to undesirable impulse. Alcoholism presents a picture of psychopathology, involving problems of motives and emotional development. Life is largely a projection on the screen of individual consciousness of what we feel and wish, so that we live to varying extents in a world of our own creation and illusion. This concept may be as confused as are the unconscious motives from which it is derived, and should cause us to be more sympathetic of the incoherences, rationalizations, fears and bizarre ideas of mental disorders of others, more severe than our own.

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FOOD ALLERGY

(A Resume of the Literature; Personal Observations.)

ORVILLE HARRY BROWN, M. D.
Phoenix, Arizona

(Continued from April Issue)

PATHOLOGY

The characteristic changes in an allergic lesion are edema and deposition of eosinophiles, and, in many tissues, muscle spasm.

In pylorospasm, Ward and Cohen and Breithaupt say there is edema of the mucosa and submucosa and a contraction of the muscle fibers.

Ecker and Bikind, Eyermann, and others, have actually observed intestinal spasm in allergic states by means of the x-ray.

Bogart found, at operation on an individual with a gastro-intestinal lesion, that there was blood-stained fluid in the abdominal cavity; the ileum and jejunum were congested, edematous, and ecchymotic, with walls nearly an inch thick from edema, so stiff as to prevent peristalsis, and with the lumen nearly obliterated.

Manwaring, Beattie, and McBride recorded that, in a dog with an anaphylactic reaction in the intestines, the characteristic lesions are stasis, edema, desquamation, hemorrhage, and necrosis of superficial areas.

Wellbrook discovered a case of duodenitis with a much thickened mucosa, due to infiltration of leukocytes and eosinophiles. Jelks says that in mucous colitis the mucosa is injected and edematous.

Gay writes that two cholecystectomy, and two appendectomy, cases, operated upon by mistake, had intra-abdominal allergy and

yielded tissues with signs of chronic inflammation and an abundance of eosinophiles.

Morris brought up with his stomach-tube, from an allergic stomach, a piece of stomach tissue which showed marked edema.

Garoh and Hari found marked edema in urticarial lesions. Opie observed extensive inflammatory edema in experimentally produced phenomenon of Arthus. Alexander says localized edema is the characteristic pathologic change in asthma, hay-fever, and urticaria. Cooke and others also recognize eosinophilia as characteristic of allergy.

Cohen says that, ten minutes after injecting a skin with pollen to which it is sensitive, many polymorphonuclear leukocytes, a few of them eosinophiles, have gathered at the site; after thirty minutes, ninety per cent of the leukocytes are eosinophiles. The nasal secretions from an allergic nasal lesion are apt to have a great preponderance of eosinophiles. Drueck found that the rectal discharges in mucous colitis had enormous numbers of eosinophiles. The characteristic pathologic change in any and all allergic lesions, he says, is edema.

Moll observed a polycythemia after a series of severe attacks of allergic asthma.

The question of bronchiolar muscle spasm in asthma is not receiving the attention or emphasis that was given it a decade or two ago.

The pathologic change in asthma—aside from the possible muscle spasm, the mucosa edema, the infiltration of the mucosa with eosinophiles, the accumulation of mucus and cellular detritus within the lumen—are circulatory changes in the bronchial walls and elsewhere, dependent upon non-passive expirations. The change consists in a congestion of the bronchial walls during expiration and a depletion of these areas during inspiration. This I have fully explained in my book on asthma; so far as I have been able to learn, there is no other theory than that of non-passive-expiration which fully accounts for and explains difficult exhalation and the easy inhalation of asthma.

Ratner and many others have agreed that mucous plugging of bronchi is proved and that the theory of spasm of the bronchiolar muscle is not proved. Sudden deaths in asthmatics, Ratner thinks, however, may be due to spasm of the very terminal bronchiolar muscle. Pinness and others think the sudden deaths usually come from plugging of the bronchi with mucus, often after morphine.

Barber and Oriel have demonstrated substances in the urine of allergic individuals at the time of a paroxysm, which they have designated urinary proteoses. Barber says there are two proteoses in the urine—a primary and a secondary; the secondary is from the action of sensitized cells upon the primary proteose. Jansion, Giard and Martinaud found "endo-antigens in urines, which they seem to prove are the allergens responsible for the allergic phenomena of the patient from which each specimen was obtained.

EXPERIMENTAL DATA

Koessler, Schloss, and Curshmann produced sensitization in guinea-pigs by transfusing them with serum of allergics. Rosenau, Anderson, and Otto proved that hypersensitive guinea-pigs transmit sensitization to their offspring. This was confirmed by Ratner, Jackson, and Gruehl.

Ratner demonstrated that antibodies and allergens, either or both, may pass through the placentas of guinea-pigs and cause sensitization of the fetuses. If the allergens are given to the mother late in gestation and she has not been previously sensitized, the sensitization in the fetus may develop several weeks after birth. Human beings probably behave just as do guinea-pigs in this regard.

Ratner and Gruehl gave pregnant guinea-pigs, a few days before term, intravenous doses of horse serum; the young were not sensitive to horse serum at birth, but subsequently became sensitive to it and, in turn, transmitted the sensitivity to their offspring. Otto reared young from ricin non-sensitive mothers and ricin-sensitive sires; the young were sensitive to ricin. The sensitivity must have been spermatically transmitted.

Pagniez, Mouzon, and Turpin transfused animals with blood of epileptics and the animals developed convulsions. Blood from normal persons in control experiments did not produce convulsions. Boston and Henry accidentally transfused two non-epileptics with blood from an epileptic and recurring convulsions resulted in both cases.

Prausnitz and Kuestner took serum from the blood of a person sensitized to a protein, injected it intradermally into a non-sensitive

person, and found that this area became sensitive to the respective proteins in question. This is a passive transference of sensitization —often spoken of as the Prusnitz-Kuestner test.

Eell and Ericson found the Prausnitz-Kuestner antibodies in the blood of sensitive mothers but not in the cord blood of their offspring. Van Leeuwen demonstrated that transference of immunity to animals by injecting serum from allergics depended upon the allergics' intensity of sensitization and also upon the time of withdrawal of the blood with relation to attacks. DeBesche and also Fragani demonstrated that, immediately after an asthma paroxysm, the blood does not contain the substances essential for transferring sensitivity to animals or to man; before long, however, the substances appear.

Smyth and Bain passively sensitized areas of skin in new-born infants and gave them protein by mouth; the sensitized areas reacted.

Waringer took serum with antibodies of ovalbumin, added to it ovalbumin, and found that the one neutralized the other as tested by the Prausnitz-Kuestner reaction. Again he found that the antibody-allergen combination is irritating to the skin of infants. In sixteen allergic infants the passive transference of sensitization was negative five times, showing, the author thought, that credence should not be given to a negative test.

Voit observed that egg-white administered by rectum increased the urine nitrogen, indicating absorption of undigested protein.

Smyth and Stallings introduced egg-white into the colons of healthy infants; passively sensitized areas reacted. The proteins of egg-white must have been absorbed practically undigested.

Waltzer and Waltzer, by means of the passive transfer of sensitivity to an area of skin and feeding the appropriate antigen by mouth, obtained a reaction in the sensitized areas, thus proving that absorption of protein may take place from the upper alimentary tract.

Brunner and Walzer kept sixty-five persons on a fish-free diet for twenty-four hours and then gave them intradermal inoculations of serum from fish-sensitive patients; the subjects were then fed fish. Reactions in the sensitized areas developed in five to fifteen minutes; one reaction occurred in two minutes, due probably to a hypochlorhydria. Giving alkali with the fish caused the reactions to come more quickly than otherwise. Food in the stomach at the time of giving the fish prolonged the reaction time. A peculiar observation was that allergics had a longer reaction time than did non-allergics. Sussman, Davidson, and Walzer, using serum from egg-sensitized patients for the Prausnitz-Kuestner reaction and giving egg, confirmed the experiments of Brunner and Walzer with fish serum and fish feeding; they fed peptone an hour previous to the egg, as has been recommended by numerous workers for preventing allergic reactions. Their conclusion was that the peptone had no effect upon the time or intensity of the reaction. A person with ulceration of the sigmoid and colon had extraordinarily rapid absorption of the protein when it was administered by enema.

Schloss and Worthen proved the absorbability from the alimentary canal of whole and partially digested protein by precipitin and anaphylactic tests.

Walzer and Walzer found that protein skin tests appear quickly in those with hypochlorhydria and are retarded in those with hyperchlorhydria.

Hill observed vasodilation as the consistent pathology in the skin from a positive skin test; the serum outflow and the wheal are the direct result of the vasodilation.

Oriel discovered that, when a person allergic to egg, eats egg, his urine develops a substance which, when applied to a guinea-pig's uterus, causes contractions; a urine from another sensitive person containing substances from another protein, applied to the same uterus will cause further contractions. He concludes that the application of urine to the uterus of the guniea-pig is an excellent test for the presence of these substances which he has named urinary proteoses. Rats are ordinarily not easy to sensitize to protein unless they are kept on a strict bread-and-milk diet, and then they become sensitive to these substances.

Onie reversed the phenomenon of the usual anaphylactic reaction by first introducing antigen into the blood and then antibodies into the skin; at that point and time the anaphylactic reaction developed. The conclusion was that it is the antibodies which determine which tissue will be affected and the tissues them-

selves have apparently not been directly affected until the time of the anaphylactic reaction, which is the phenomenon of Arthus, an extensive inflammatory reaction.

Donyzs produced arthritis in rabbits by injections of horse serum.

Manwaring and associates took the liver from a dog sensitized to a protein and transplanted it into another dog, injecting the protein, to which the first dog was sensitized, into the second dog, caused it to have anaphylactic shock; their conclusion was that liver makes an antigen of the protein. In dehepatized dogs, moderate sensitization does not call forth smooth-muscle spasm; the liver seems to liberate a histamine-like substance made from the protein; smooth muscle from non-sensitized animals transplanted into a sensitized animal behaves just as does the smooth muscle of the host on being shocked with protein. Blood drawn from the vena cava on immediately initiating anaphylactic shock, when transfused into normal dogs, produces anaphylactic reactions; blood from other vessels does not have this effect. The indications are that the liver manufactures the antigen — probably through a digestive effect upon the absorbed undigested protein.

Burtasch, Feldberg, and Nagel transfused the lungs of guinea-pigs which were sensitized to a protein with that diluted protein and the lungs gave off a substance which had the power to cause contraction of smooth muscle. Other tissues than liver produce the antigens.

Dragstedt, Gedaner-Fuelnegg, and Mullenix took a small amount of thoracic-duct fluid of animals in anaphylactic shock, diluted it and found that it caused strips of guinea-pig intestines to contract. This substance responsible for stimulating contraction, they designate "allergic hormone;" it is not found in non-sensitized animals; when injected into human skin it behaves like histamine and sets up a wheal; it is dialyzable and thermostable.

Novy. de Kruif and Novy produced anaphylactic shock in guinea-pigs by using peptones.

Thiberge discovered that the site of former hay-fever tests swelled during paroxysms of hay-fever and that massage of the test area might produce an anaphylactic reaction.

Lamson had about equal reactions in non-allergics and allergics from the use of histamine.

Pentinalle regularly obtained nystagmus in one rabbit during anaphylactic shock.

Metzger administered 500 cc. of a 25 per cent glucose solution, or 1000 cc. of a 10 per cent glucose solution, to asthmatics, with definite benefit to the paroxysms.

Choremes gave to three children sensitive to tuberculin, increasing daily doses of hydrochloric acid for three and one-half months with an increase of the pH of the urine, indicating an acidosis—and a definite decrease in the size of the tuberculin reactions at the end of this period.

SYMPTOMS AND CLINICAL COURSE

Whatever the system or systems involved, the symptoms of allergic manifestations are apt to be slight in the beginning and perhaps for a considerable time thereafter. Emphasis needs to be placed upon the importance of recognizing the early symptoms. We physicians must first learn to seek for the early symptoms of one or another type of allergy and then we must teach our patients ot give heed to them. Allergic "lightning" does not strike from a clear sky. We must become allergy-minded. The danger is not that one will see allergy when it is not, but that one will overlook it until it is well advanced. At least, that is still my experience after years of work in the field.

Potential asthma should be recognized at the first indication of bronchitis or with the frequent or protracted nasal "colds." Pruritis should be investigated and food allergy thought of whenever there is no other proved cause; the same applies to gastro-intestinal symptoms and other possible manifestations, as mentioned under the "types of allergy."

Whenever the symptoms are out of proportion to the discoverable pathology, it is well to think of a food allergy.

Dennis and Moore and others called attention to the frequent association of infection with food allergy.

Drueck, Balyeat, Piness, Vaughan, Rowe, and many others call attention to the importance of ascertaining if there is a history of previous allergic disturbances, in attempting to arrive at an interpretation of the symptoms, as to whether they are or are not allergic.

Brock, for example, says there is a relationship between asthma, psoriasis, and gout, and that treatment of one benefits the other two.

Even severe cases go unrecognized for years. Vallery-Radot and Blamautier describe a man who for twenty years had weekly attacks of acute gastric pain, nausea, fatigue and severe swellings here and there; at one time edema of the glottis was so severe that tracheotomy was contemplated. All therapeutic measures failed; death came probably from edema of the glottis. Piness and Phillips had a patient in chronic invalidism, with intestinal ulceration, bloody stools, extreme emaciation, absolute bowel incontinence, diarrhea, tenesmus, dehydration, and cecostomy, who was found sensitive to foods; he had been utterly incapacitated for years. All offending foods were eliminated; no other treatment was given; recovery was rapid; he became mentally and physically active.

Discussing asthma, Cooke says that the so-called infectious asthma exhibits eosinophilia to about the same extent as do those proved definitely to be allergic, and therefore probably all asthmatics should be considered allergic.

Moore says children rarely have asthma but they frequently have eczemas; after two, the bronchial, gastro-intestinal, and genito-urinary tracts become involved. He also says allergic diseases are rare in eastern Europe, less rare in western Europe, prevalent in England and extremely common in America. No explanation of these differences has been offered.

Spangler believes that, even in brain lesions with epilepsy, there is an allergy either acquired or hereditary. He has found that epileptics have various other allergic phenomena. One person as a child had asthma—later becoming epileptic. The periodicity of epilepsy compares favorably with that of asthma, migraine and urticaria. Skin reactions are found in about the same proportion in epilepsy as in well-recognized forms of allergy. Other writers on epilepsy present similar views on its clinical manifestations.

Rackemann, Waldbott, Piness, Vaughan, and many others have commented that a large percentage of allergics, at one time or another in their lives, have had two to several forms.

Regarding migraine, Eyermann, Liveing, and others found that the duration of the pain seemed to depend upon the amount eaten of the offending food; the time elapsed between taking the foods and the appearance of the migraine is individual and in one series varied from a few minutes to six hours. Nasal blocking, coryza, dizziness, abdominal distress, nausea and vomiting, and edema of face or elsewhere, were all common accompanying symptoms of the migraine.

The disturbances within and in conjunction with gastro-intestinal allergy, are often of the most serious type from the standpoint of the patient. A patient with indigestion or dyspepsia rarely gets much sympathy.

The following abstract of an article by Gay summarizes in an excellent way the observations of many allergists. Abdominal allergic reactions have varied symptomatology and hence may be difficult to recognize. There may be much or slight indigestion or excruciating attacks of pain, which is more common than generally suspected; a history of associated sensitization is often lacking; in infancy, attacks of urticaria or eczema or other allergy may give the clue. Colds, sinusitis, morning sneezing, food disagreements or dislikes, chronic abdominal complaints, mental depression, nervousness and fatigue are often encountered; bloating, constipation, right upper quadrant pains, vague discomfort, headache, ulcer-type pain, right-lower-quadrant pain, unusual fatigue, unexplained diarrhea, nausea, lower central abdominal pain, epigastric pain, left upper quadrant pain, chafing, cramping pain and sour stomach, are other symptoms. The most frequent symptoms in the series of Gay were pain, constipation, gas, and bloating. Twenty-one of the patients giving this array of symptoms had been operated upon one or more times with not more than temporary relief; all of the series had hypothyroidism. Tenderness in epigastrium, in the gallbladder or appendiceal region, may be extreme and dependent upon certain foods in the diets. Proctoscopic examinations often showed a reddened rectal mucosa with mucus. Thirty-two had complete gastro-intestinal x-ray studies: diagnoses of spastic colon, diseased appendix, colon hypermotolity and gallbladder disease were not infrequent. The most frequent food reactions by skin test were from wheat,

eggs, beef, milk, corn, cocoa, rice, chicken, tomato, pepper, coffee and vanilla. Cutaneous tests should be done on all hypothyroidism individuals who have gastro-intestinal symptoms, even though disease is demonstrated roentgenologically; if eosinophiles exist, the case is apt to be allergic. A proper diet may give relief. Persistent allergic reactions may give a low state of vitality and a chronic state of inflammation. Definite localized tenderness will often disappear with the elimination of offending proteins. One patient, who had had a cholecystectomy, suffered severe pains in the gallbladder region after eating either apple or beef; two cholecystectomies and two appendectomies yielded tissues with chronic inflammation but with an abundance of eosinophiles in the walls of the removed structures. In addition to skin tests, a food diary may be of help in selecting the ideal diet in any particular case; a diet of glucose and water for forty-eight hours and then an addition of one food at a time, is preferable to Rowe's elimination diets. A patient who cannot eat certain foods in one part of the country may eat them with impunity in another. Thyroid therapy may be beneficial; sunshine is helpful; calcium is rarely, if ever, useful.

Gay does not mention intestinal hemorrhage as occurring in anaphylactics, but Rowe, Lintz, and others say this is not uncommon. If Hennoch-Schonlein's purpura is allergic, and it seems that it is, hemorrhage from any part is not to be unexpected in food sensitizations. Small bruised, "black-and-blue" areas are particularly common in the allergics.

(Continued in June number)

SEX HABITS: A Vital Factor in Well-Being; By A. Buschke, M. D. and F. Jacobsohn, M. D.; Translated from the German by Eden and Cedar Paul; Foreword by Gerard L. Moench, M. D.; New York; 1933; Emerson Books, Inc.

As the title of the book states, this is a subject the importance of which to the human race will scarcely be overstressed. It has been the duty and privilege of the reviewer to have read a number of books upon the subject. For statements of fact, simplicity, terseness, and nicety of presentations and for the ethics and philosophy, I can recall no book which throughout is on so excellent a plane. The facts upon the function and structure of the sex organs is presented in an admirable manner. The layman, probably with a dictionary to define certain terms, should be able to read the book with understanding and profit. —O. H. B.

RAGWEEDS AS SPRING POLLINATORS.

E. A. GATTERDAM, M. D.
Phoenix, Arizona

The unusual climatic conditions of the past winter, with its mildness and the early spring, have altered materially the growth and pollination of many of the weeds throughout the Salt River Valley and other sections of Arizona. Apparently the effect on the trees was slight, as they pollinated only about one week earlier than their usual time. Rabbit bush (franseria deltoides) pollen made its appearance in February, about three weeks to one month earlier than usual. Desert ragweed (franseria dumosa) apparently was little affected and bloomed the middle or latter part of March. Russian thistle and careless weed (amaranthus palmeri) were early in many places throughout the valley.

The most unusual pollination, however, occurred in the slender false ragweed (franseria tenuifolia). Normally this weed begins to grow about July and reaches its pollination period in September or October, going to seed in about one month. It is an annual and propagates by seeds. In April of this year this ragweed was seen beginning to grow and by the latter part of the month in some sections it had reached a height of from two to three feet. In Phoenix, during the first few days in May, plants were found pollinating in the eastern section of the city, and, at the present time (May 12) the pollination is more or less general. Undoubtedly the seed from this weed began growing during the warm winter months.

The same condition is holding true in and about Prescott (altitude 5300 ft.). In a recent survey there, Russian thistle is well up and pollinating, along with the scrub oak. Careless weed, however, has not as yet made its appearance generally. The bur ragweed (franseria acanthacarpa) and the Western ragweed (ambrosia psilostachya) can be seen growing, the former reaching nearly two feet in height in places. Budding has not as yet taken place. The western ragweed is a perennial and propagates from its rootstocks and seeds while the bur ragweed is an annual and springs from its seeds only. These weeds usually begin pol-

linating the first part of August, the bur ragweed being a little later than the western. This year, however, with the early growth they will undoubtedly begin releasing their pollen in the next month or so.

With the early warm spring this year and the advanced pollination of many of the weeds the problem of treatment of the hay-fever and asthma patients will be more or less confusing and difficult unless the growth and development of these weeds is carefully watched.

PUBLIC HEALTH NOTES

J. ROSSLYN EARP, DR. P. H.
Director New Mexico State Bureau of Public Health.

ART AND SCIENCE IN MEDICINE AND PUBLIC HEALTH

(Condensed from an address delivered to the New Mexico State Nurses' Association, April 6, 1934.)

When we say that medicine is both an art and a science, how do we distinguish these two elements in the practice of healing?

Science, or the scientific method, consists in the collection of a number of observed phenomena, the classification of these phenomena, the formulation of theory to explain their occurrence, and the testing of the theory by experiment. Finally, when our theory has successfully stood the test of many experiments performed by many different scientists, we call it a law and use it as such until somebody discovers another law which is still more satisfactory.

The artist also observes phenomena. He collects and classifies them in his subconscious mind. His 'theories' appear in consciousness as a sort of inspiration. His experiments are not controlled and so the rules which govern an art are less reliable than the laws which govern a science and are quite properly regarded as less binding.

Art in medicine has two advantages over science. The free association of the subconscious mind tends to relate phenomena of widely different variety and so to make new and fruitful syntheses. The second advantage lies in the great rapidity with which such classification and synthesis can be accomplished. Compared with the speed of mental processes even the electrical sorting of punched cards is a slow and laborious process.

But the use of mental processes carries with it two disadvantages so serious that medicine has never been able to make any important advance save when science has invaded its realm of art. The first failing of the human mind is a readiness to believe in magic. Even today, where healing is carried on without any scientific control—as in christian science, faith healing, and the like—it is plain that belief in magic controls the exhibition of art and largely stultifies its results. The second failing of the human mind is its inordinate interest in the self. Have you ever been told by a patient of how a particular drug affected him? And have you noticed that that was the crucial experiment? To that patient the results (real or imaginary) of that drug upon himself fix the properties of that drug for all time. The physician who practises medicine as an art is governed by his own experience. This is perhaps only a repetition of what I have already said: that the experiments of the artist are uncontrolled.

From Hippocrates to Galen, medicine was under the influence of the scientific method. For more than a thousand years after Galen, medicine was practised as an art and made no progress. Today we use a happy combination which insures both the best interest of the patient and the progress of knowledge. But less and less do we rely upon the art and more and more upon the science of medical practice. Take the diagnosis of typhoid fever. The artist detects an odor which no instrument can measure, he notes symptoms which may be present in typhoid fever and may be present apart therefrom: bronchitis, or stupor, a raised temperature and a rapid pulse which to his touch may feel dicrotic. The symptoms have each a certain value assessed in the observer's mind on the basis of past experience. The particular combination of symptoms has also a certain value and there is no published table to give the probability of a positive diagnosis for each particular combination of symptoms with a given prominence of this one or that. Now the stored experience in the mind of the diagnostician must be ransacked and the valuable elements rapidly collated and that my

terious function of judgment brought into play.

But here comes a report from the laboratory that a culture of typhoid bacilli has been found in the patient's blood. And at once the art of medicine is bowed into a secondary place.

The value of the close relationship of patient and physician is a value in the art and not in the science of medicine. When the diagnosis of tuberculosis depends on the estimation of fatigue, it is of the greatest importance to know something of the personality of the patient. When it depends upon the interpretation of an x-ray film, the patient need not even be in the room. Of course, at the present time, the diagnosis of tuberculosis depends not upon the one or upon the other, but upon both, and the patient-physician relationship is still of the greatest importance. We can see, however, that it is the growing use of exact scientific methods in medicine which compels us to cry again and again: Do not rely only on the laboratory, do not forget that you are dealing with personalities and not with machines!

Medicine is an art which in the last century has come to employ more and more the scientific method. Public Health on the other hand was born a science, and until very recent times has been mostly contemptuous of the artist's methods. The scientific development of sewerage and the purification and sterilization of water supplies have almost eliminated typhoid fever from city life, though probably not one in a hundred of the citizens knows or cares how this has been done. But in other directions the science of preventive medicine has advanced far beyond its practical application. In the fields of immunology, of nutrition, of rural sanitation, how vast the possibilities, how insignificant our accomplishment! It is not for lack of exact knowledge that our people still suffer and die from syphilis, tuberculosis, diphtheria, and the intestinal infections. We know enough to abolish all of these within a generation. But we can go no further without popular support. Such obstacles as popular inertia and indifference, resulting in inadequate appropriation for public-health work on the one hand and inadequate cooperation on the other, cannot be surmounted by the scientific method. Public Health cannot function any longer as a pure science. We need the artist's help. We need men and women in our profession who can breathe upon the dry bones of scientific discovery and make them live. We need orators and writers and public-health nurses. We need especially the help of physicians and nurses who, through the practice of their profession, are versed in the lore of human relations as well as in the discipline of our common scientific foundation.

MORE DON'TS

W. R. Jamieson, M.D., El Paso, Texas.

Don't pass instruments through the urethra until you have tried it ONCE on yourself.

Don't forget that a minimum of three grams of urotropin is necessary to produce sufficient formaldehyde to exert any appreciable influence on infection of the urinary tract. Keep the urine acid.

Don't forget that calcium gluconate is almost specific in gonorrheal epididymitis.

Don't let the disappearance of blood in the urine lull you into a feeling of false security. It is a danger signal and its source should be promptly investigated.

PSEUDOCYESIS

A comprehensive research into this too-little understood condition is being conducted by Dr. George D. Bivin, M.A., M.D., of Cleveland, Ohio. He requests from readers of this journal information regarding any cases which may have come under their observation. He offers to send a blank questionnaire indicating the points of information desired to any one who has personally treated one or more cases of spurious pregnancy. He asks that any such communicate with him, with regard to the following points:

1. Which type of questionnaire is desired,—a brief one or a comprehensive one? (2) How many cases of pseudocyesis have you treated? (3) For each case please write (a) How long was patient married before pseudocyesis? (b) Number of children patient had previous to pseudocyesis; (c) The approximate age of patient at the time of pseudocyesis; (d) Number of abortions patient had previous to pseudocyesis.

Address: George Davis Bivin, Box 272, Cleveland, Ohio.

Southwestern Medicine

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NOTICE REGARDING ARIZONA MEETING.

Doctors in Arizona, and interested doctors elsewhere, will please take note that no other program for the meeting in Prescott, June 7, 8 and 9, will be sent out. The full program is given below, and copies may be obtained at the time of registration in Prescott.

PROGRAM

Arizona State Medical Association
Prescott, Arizona
June 7, 8 and 9

Announcements

Registration headquarters will be at the Hassayampa Hotel. Every member, visitor and guest is requested to register promptly on arrival. Registration fee $5.

Scientific sessions will be held in the St. Michael Hotel

No address or paper before the Association, except those of invited guests, shall occupy more than twenty minutes. The opening discussions are limited to five minutes and general discussions to three minutes each. No one shall speak more than twice on the same subject.

Papers read before the scientific sessions shall become the property of the Association and shall be deposited with the secretary for publication in the official organ of the Association (Southwestern Medicine).

For the social entertainments, see the special announcements elsewhere in this program.

Officers

President:
N. C. BLEDSOE - - - - - - - Tucson
President-Elect:
*FRED G. HOLMES - - - - - - Phoenix
Vice-President
MEADE CLYNE - - - - - - - - Tucson
Secretary:
D. F. HARBRIDGE - - - - - - Phoenix
Treasurer:
C. E. YOUNT *Prescott*
Councilors:
G. F. MANNING (Northern District) - Flagstaff
VICTOR RANDOLPH (Central District) Phoenix
E. C. HOULE (Southern District) - Nogales

* Fred G. Holmes, President-Elect, resigned due to ill health. Meade Clyne, Tucson, Vice-President Elect, will take office as President at this meeting.

Committees

Committee on Scientific Work:
MEADE CLYNE, *Chairman* - - - - Tucson
G. H. FITZGERALD - - - - - - - Tucson
D. F. HARBRIDGE - - - - - - Phoenix
Local Committee on Arrangement:
JAMES H. ALLEN, *Chairman* - - Prescott
R. N. LOONEY - - - - - - - Prescott
G. O. BASSETT - - - - - - - Prescott
E. A. BORN - - - - - - - Prescott
M. S. GAEDE - - - - - - - Jerome
Public Welfare Committee:
J. D. HAMER, *Chairman* - - - - Phoenix
N. C. BLEDSOE - - - - - - - Tucson
HOWELL RANDOLPH - - - - - - Phoenix
GEO. C. TRUMAN - - - - - - Phoenix
D. F. HARBRIDGE - - - - - - Phoenix
Medical Economy Committee:
O. H. BROWN, Chairman - - - - Phoenix
J. B. LITTLEFIELD - - - - - - Tucson
J. W. FLINN - - - - - - - Prescott
C. W. ADAMS - - - - - - - - Globe
A. L. GUSTETTER - - - - - - Nogales
Medical Defense Committee:
JOHN E. BACON, *Chairman* - - - Miami
R. D. KENNEDY, *Member* - - - - Globe
D. F. HARBRIDGE, *Secretary* - - Phoenix
Southwestern Medicine:
W. W. WATKINS, *Editor* - - - Phoenix
ORVILLE H. BROWN, *Associate Editor* Phoenix
N. C. BLEDSOE, *Arizona Members of* Tucson
D. F. HARBRIDGE *Board of Managers* Phoenix

Program

Thursday, June 7, 9:30 A. M.

Invocation:
REV. FRANKLIN PARKER - - - - Prescott
Address of Welcome:
HON. CHARLES F. ROBB - Mayor of Prescott
GAIL D. ALLEE, *Officer in Charge* - - - - Whipple Barracks
C. R. K. SWETMAN, *President* Yavapai County Medical Society
Response: G. H. FITZGERALD - - Tucson
Introduction of Vice-President-Elect, Meade Clyne by President N. C. Bledsoe - Tucson
President's Address:
MEADE CLYNE - - - - - - - - Tucson
ZEBUD M. FLINN (Guest) - - - - - Prescott
"Anorexia."
Discussion
WM. O. SWEEK and GUY C. FRENCH - Phoenix
"Intestinal Obstruction."
Discussion opened by
A. C. CARLSON, Jerome.
DUDLEY SMITH (Guest) - - - - San Francisco
"The Menace of Rectal Suppositories—Care of Rectal Cases."
Discussion opened by
WILLARD SMITH, Phoenix.
ROY HEWITT - - - - - - - - - Tucson
"Proctoscopy as an Aid to Diagnosis."
Discussion opened by
V. G. PRESSON, Tucson.
E. CLARENCE MOORE (Guest) - - Los Angeles
"Pre-operative Preparation and Post-operative Care.
Discussion opened by
ROBERT FERGUSON, Bisbee.
R. F. PALMER - - - - - - - - - Phoenix
"Rating Permanent Partial Disability by Functional Measurements."
Discussion opened by
C. E. YOUNT, Prescott..
FRANK C. GOODWIN (Guest) Fraternal Delegate, El Paso County Medical Society, - El Paso
"A Bone Brace to Prevent Toe Drop in Paralytics."
Discussion opened by
R. D. KENNEDY, Globe.

Friday, June 8, 9 A. M.

EMILIO URRIOLAGOITA - - - - - - Nogales
"Some Observations on Goitre Operations."
Discussion opened by
V. A. SMELKER, Tucson.
HOWARD K. GRAY (Guest) Department of Surgery - - - - - - - - - Mayo Clinic
"Surgery of the Biliary Tract."
Discussion opened by
GEORGE GOODRICH, Phoenix.
ARTHUR SMITH, D.D.S., M.D. (Guest) - Los Angeles
Plastic and Reconstructive Surgery of the Head."
Discussion opened by
E. PAYNE PALMER, Phoenix.
MAX PINNER, (Guest), Desert Sanatorium, Tucson
"Physiology of Pulmonary Collapse."
Discussion opened by
JOHN W. FLINN, Prescott.
HOWELL RANDOLPH - - - - - - - Phoenix
"Pneumothorax Treatment in Acute Lobar Pneumonia—Report on Eighteen Cases."
Discussion opened by
S H. WATSON, Tucson.
CHAS. A. THOMAS - - - - - - - Tucson
"Collapse Therapy in Tuberculosis Motion Film of Thoracoplasty."
Discussion opened by
VICTOR RANDOLPH, Phoenix.
SAMUEL D. INGHAM (Guest) - - Los Angeles
Prof. Nervous Diseases, University of Southern California.
"Neurologic Conditions Commonly Associated with Diabetes, Pellagra and Pernicious Anemia."
Discussion opened by
KIMBALL BANNISTER, Phoenix.
WARNER WATKINS - - - - - - - - Phoenix
"Roentgen Therapy of Inflammations."
Discussion opened by
EDWARD M. HAYDEN, Tucson.
A. E. GATTERDAM - - - - - - - - Phoenix
"Nasal Allergy."
Discussion opened by
R. A. WILSON, Tucson.

Saturday, June 9, 9:30 A. M.

LOUIS BALDWIN - - - - - - - - Phoenix
"Treatment of Secondary Anemia."
Discussion opened by
FRANK J. MILLOY, Phoenix.
ROBERT FLINN - - - - - - - - - Phoenix
"Treatment of Nephritis."
Discussion opened by
ROLAND DAVISON, Tucson.
R. K. SMITH - - - - - - - - - Tucson
"Post-partum Hemorrhage."
Discussion opened by
FLOYD B. SHARP, Phoenix.
GEORGE COLVARD (Guest) Fraternal Delegate, New Mexico State Medical Society, Deming, N. M.
"Rural Obstetrics—Delivery in the Home."
Discussion opened by
H. A. REESE, Yuma.
M. I. LEFF - - - - - - - - - Glendale
"Common Sense about Medical Ethics."
Discussion opened by
ORVILLE H. BROWN, Phoenix.

Schedule of Business Meetings

Council Meetings

Wednesday, June 6, 8 P. M.
Saturday, June 9, 8:30 A. M.

House of Delegates

Executive Session, Thursday, June 7, 8:30 A. M.
Open Session, Election, Saturday, June 9, 3:00 P. M.

Members of Council

President, N. C. BLEDSOE - - - - - Tucson
President-Elect, MEADE CLYNE - - - Tucson
President-Past, CLARENCE GUNTER - - Globe
Treasurer, C. E. YOUNT - - - - Prescott
Secretary, D. F. HARBRIDGE - - - Phoenix
G. F. MANNING, *North District* - - Flagstaff
V. C. RANDOLPH, *Central District* - - Phoenix
E. C. HOULE, *Southern District* - - - Nogales
JOHN E. BACON, *Medical Defense* - - Miami

House of Delegates

Cochise County	2
Coconino County	1
Graham County	1
Greenlee County	1
Gila County	2
Maricopa County	7
Mohave County	1
Navajo-Apache County	1
Pima County	7
Santa Cruz County	1
Yavapai County	2
Yuma County	0
Members of Council	9
Total	35 Members

Entertainments

Thursday, June 7

8:30 P. M. Smoker. Hassayampa Hotel.
R. F. Palmer, Phoenix. Discussion of Medical Cooperation with The Arizona Industrial Commission.

Friday, June 8

7:00 P. M. Annual Banquet. Informal. Hassayampa Hotel.
G. T. Vinyard, Fraternal Delegate, Amarillo, Texas. Greeting from the Texas State Medical Association.
Mrs. C. R. Swackhamer, President. Report of Women's Auxiliary.
Dance.

Program for the Medical Auxiliary

Thursday, June 7

1:00 P. M. Luncheon at the Hassayampa Country Club.

Friday, June 8

Auxiliary Meeting at Monday Club.
2:00 P. M. Drives.
7:00 P. M. Annual Banquet. Informal. Hassayampa Hotel.

Saturday, June 9

9:00 A.M. Auxiliary Meeting at Monday Club.

PRINCE ALBERT MELICK
(Williams, Ariz.)

Dr. P. A. Melick, a charter member of the Coconino County Medical Society, a practitioner for thirty years or more in northern Arizona, died about April 20th, in Los Angeles. Dr. Melick was sixty-four years of age, a graduate in 1892 of Beaumont Hospital Medical College, of St. Louis, and was licensed in Arizona in 1903, although located in the state prior to that date. The entire Association will share with his confreres of Coconino County their sorrow at the passing of another pioneer physician of the state.

WILLIAM CLARENCE MATTHEWS
(Roswell, N. M.)

Information comes to us of the death of Dr. Wm. C. Matthews, of Roswell, N. M., which occurred suddenly on March 6th, from angina pectoris. Dr. Matthews was a member of the Chaves County and the New Mexico State Medical Societies. He was a graduate of the National University of Arts and Sciences Medical Dept., St. Louis, in 1913. He was licensed in New Mexico in 1914. He entered the Medical Department of the Army and served during the World War. He was a valuable and esteemed member of the medical profession of his community.

ALBERT JOHN HOSKINS
(Albuquerque, N. M.)

Dr. A. J. Hoskins, a well known figure in Veterans' Administration work in Arizona and New Mexico, succumbed to a sudden heart attack, the latter part of April, in Albuquerque, N. M. He had recently been transferred to that field from Phoenix, where he was, for several years, Director of Medical Work for World War Veterans. While in Phoenix he became well known to the medical profession and left many friends behind when he was transferred. Prior to being established in Phoenix, he was at Veterans' Hospital No. 55, at Fort Bayard, N. M.

CANCER CONTROL

A major problem in medicine is the control of cancer, as distinguished from research into the causes of cancer and its treatment. The Bulletin of the American Society for the Control of Cancer is a very useful periodical for every physician, because cancer is so universal that every active practitioner must come in contact with it frequently. This Bulletin appears monthly and contains a number of short articles written by distinguished authorities in the field of cancer therapy and cancer research. It offers at a subscription price of $1.00 per year, an easy and practical way for the physician to keep abreast of cancer control progress. A complimentary copy of the Bulletin will be sent to any physician, on request addressed to the American Society for the Control of Cancer, 1250 Sixth Ave., New York City.

NEW JOURNAL FOR DIGESTIVE DISEASES

No. 1, Volume 1, of the American Journal of Digestive Diseases and Nutrition has been received from the office of publication in Fort Wayne, Ind. Dr. Frank Smithies, of Chicago, is Editor-in-Chief, with an impressive Editorial Council. The material is arranged in ten sections, including Clinical Medicine, Experimental Physiology, Nutrition, Roentgenology, Therapeutics. Abdominal Surgery, Surgery of the Lower Colon and Rectum, Editorial, Book Reviews and After Hours. The first three articles under Clinical Medicine are on Amebiasis, with a fourth article on treatment of the same condition in the Therapeutic Section.

We look for a very cordial reception of this journal, if its future issues are as practical and timely as this one.

THE WOMAN'S AUXILIARY

To the Arizona State Medical Association.
MRS. C. R. SWACKHAMER, President.
MRS. JOHN C. WILSON, Willcox,
Press and Publicity Chairman.

The National News Letter of April is charged with inspiring activities of the various states. Too bad we can not print it all, but that gives our members a concrete reason for reading the BULLETIN of the A. M. A., which usually has a very interesting and instructive letter.

During this month Child Welfare programs were sponsored all over the country, and the April number of our own Public Health news carried a timely article on the control, prevention and cure of whooping cough (pertussis). Can't we members spread the glad tidings that the use of vaccine prevents as well as cures this dread disease?

Arkansas supplies milk to undernourished children. Virginia sponsored a physical fitness contest among the school children. Oklahoma sponsoring health activities in the public schools. Oregon heard an interesting paper on "The constructive work for Infantile Paralysis at the Warm Spring Foundation;" also sponsored an essay contest, "Heroes and Health," in the high schools; anohter Oregon Unit a state survey of physically handicapped children. West Virginia sponsored children's benefits.

Meetings have been held by the Maricopa and Pima County Units which were very well attended and some fine constructive work reported. Maricopa also elected officers.

Committees are being appointed for our State Convention, which as you all konw will be held in Prescott June 7th, 8th and 9th, and we had hoped to have a complete program accompanying this article, but it may appear yet, as the women in charge of arrangements have promised that if they get all details figured out before the Souhtwestern Medicine goes to press, they would rush it in direct, and here's hoping it appears.

The National Meeting will also be in June—11th, 12th, 13th, 14th and 15th, and each day is full of business, recreation and sociability, and we will not have another news letter until after the meeting.

For the Good of the Order let's all pledge ourselves to give our President prompt replies to the letters she will have to write in order to culminate plans for our State Meeting. Every chairman will needs do her part in order that we may forge ahead and achieve most next year. Those of us who are working all the time realize how our State Auxiliary has grown and can only hope for its constant and vigorous expansion.

Now in closing may I quote Mrs. Blake: "All our work has been done with the one aim in our minds, namely, the advancement of our husbands' profession and our husbands, the family doctors of our counties and states."

Information reaches us that Dr. George W. Hawley, of Bridgeport, Conn., designer of the Hawley table, has been discharged from Glockner Sanatorium and Hospital, at Colorado Springs, after a three years' successful fight against tuberculosis. While there he perfected a much more improved form of his table, with the addition of shock-proof fluoroscopic and radiographic attachments, which will permit the reduction of fractures under direct observation. The original Hawley table, designed twenty years ago, is now in the Smithsonian Institute in Washington, D. C.

Dr. Fred G. Holmes, of Phoenix, president-elect of the Arizona State Medical Association, is having the experience of having to take a dose of his own medicine. Finding himself with suggestive symptoms, physical and x-ray examinations revealed an early and rather acute tuberculosis localized in one upper lobe. He has gone to bed and after activity has subsided, he will devote the summer to the preparation of a book designed to give information to patients regarding the modern management and treatment of tuberculosis. He expects to resume his practice some time in the fall. In the meanwhile, this is being cared for by Drs. Howell and Victor Randolph, his associates.

Dr. William V. Whitmore, of Tucson, has presented to each of three universities with which he has been associated, a bound volume of his "Papers, Addresses, Sketches and Toasts." These schools are Bates College, University of Southern California and the University of Arizona. Among these are included his papers, addresses and toasts before the annual meetings of the Arizona State Medical Association during his thirty-seven years' affiliation with that organization. For more than a quarter of a century, Dr. Whitmore was asked to make the nominating speech each year for the candidates previously decided upon in caucus for the office of president. His speeches became a feature of the annual meeting and will always be remembered by the "old timers" of the Association. His memoirs will have a large place in the forthcoming "History of Arizona Medicine."

The Gynecean Hospital Institute of Gynecologic Research of the University of Pennsylvania, is conducting an intensive study of families into which congenitally malformed individuals have been born.

Special interest centers in families in which malformations have appeared in two or more children. Physicians who have knowledge of any such families are urged to communicate with:

DR. DOUGLAS P. MURPHY,
Gynecean Hospital Institute,
University of Pennsylvania,
Philadelphia, Pa.

BOOK REVIEWS

MEDICAL CLINICS OF NORTH AMERICA (Cleveland Clinic Number, January, 1934). Vol. 17, No. 1, octavo of 253 pages, with 53 illustrations. Per clinic year July, 1933 to May, 1934, paper $12.00, cloth $16.00 net. W. B. Saunders Company, Philadelphia and London.

This number of the Medical Clinics maintains the high standard of previous numbers and the subjects discussed are well chosen and cover a wide range. This volume should be of especial interest to those giving attention to general practice of internal medicine. —H. P. M.

ALLERGY IN GENERAL PRACTICE: By Samuel M. Feinberg, M. D., F. A. C. S.; Illustrated with 23 engravings and a colored plate; Philadelphia; 1934; Lea and Febiger.

Doctor Feinberg places allergy where it strictly belongs—with the general practitioner. Naturally, as in every other field, various cases will need attention from the expert. The vast majority, however, the general man will be able to treat successfully; i. e. he will be able to treat these cases successfully when he recognizes them early and learns the proper treatment.

If and when a patient develops a small area of angioneurotic edema and has been eating a considerable amount of a certain food, it may be that eliminating that food from the diet will do away with the trouble; or it may be necessary also to prescribe a digestant mixture to be taken with the meals; or again it may be necessary in addition to all this to eliminate all foods excepting one or two or three and then to add others one at a time. These procedures may be carried out by the busy general practitioner as well as by the allergist. When results along these lines fail, skin testing may be necessary. The allergist with his expert knowledge will need to be called in for many of the difficult cases, especially where skin testing is necessary, as the interpretation of these tests requires a vast experience

This book is prepared with the idea of giving the general practitioner the requisite information for successfully treating a great many allergic conditions.

The mere fact that a patient has an infection of one type or another does not preclude his also having an allergic condition. The allergy may contribute more to the individual's discomfort than does his primary condition. The tragedies or near tragedies of protein sensitization, such as severe asthma from a food or pollen, as death from a serum injection, or a terrible eczema from foods, have attracted more attention than have the milder cases such as intestinal flatulence, mild pruritis, hives, mild eczemas, allergic cystitis, etc., even though there may be 1000 mild allergic cases to one severe one. It is well though to remember that the severe cases grow out of the mild cases; mild cases easliy go unrecognized.

The book has 339 pages including index, preface, foreword, and text. The author has attempted to

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ANNOUNCES . . .

Dr. Charles Robert Elliott
Treatment Machine

See These Articles on Elliott Technic in Pelvic Inflammatory Diseases

Holden and Gurnee, Am. Jour. Obs. & Gyn. July, 1931.
Holden and Sovak, Am. Jour. Obs. & Gyn. Nov., 1932.
Counsellor. Jour. A.M.A. Sept. 16. 1933.
Graham, Am. Jour. Surg. June, 1933.
Stone, Am. Jour. Physical Therapy, April, 1932.
Jacobs, St. Louis Med. Soc. Bulletin. Discussion by Vaughan and Gellhorn, June 5, 1931.
Holliday, Jour. of Dental Research, Dec. 1932.
Shullman, Jour. of Med. Soc. of New Jersey, 1933.

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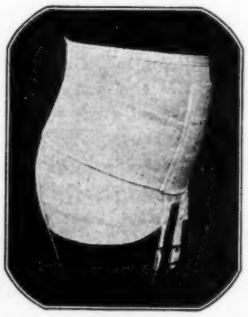

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give the reader a general conception of the entire problem. The general man may be a bit confused at his first reading of the text, but certainly no more than he was at his first introduction to any of his medical texts.

If a physician will study Feinberg's book, he will know the actual status of allergic disease today and be in a position to deal successfully with at least many of the milder cases.

The publisher's art is beautifully exemplified in this book. —O. H. B.

Arizona Public Health Association

SEVENTH ANNUAL MEETING

Prescott, Arizona, June 5-6, 1934

OFFICERS

President, R. B. Durfee, County Health Officer, Bisbee.

First Vice-President, Mrs. Carolynn Whiting, R. N., Maricopa County Health Unit, Phoenix.

Second Vice-President, George C. Truman, M. D., State Superintendent of Public Health, Phoenix.

Secretary-Treasurer, Jane Rider, Director, State Laboratories, Tucson.

Executive Committee, C. E. Irvin, M. D., Phoenix; O. W. Fowler, Sanitary Inspector, Yuma; D. W. Fountain, Chief Inspector, Phoenix; P. J. Martin, City Water Superintendent, Tucson.

TUESDAY, JUNE 5, 1934.

9:00 A. M. Registration, Hassayampa Hotel.

GENERAL SESSION

R. B. Durfee, M. D., President, presiding.

10:00 A. M. Address of Welcome: Bert Tilton, Mayor of Prescott.

Address. Honorable B. B. Moeur, Governor of Arizona.

Address, George C. Truman, State Superintendent of Public Health.

Present Day Opportunities for the Practicing Medical Profession in the Field of Public Health: W. P. Shepard, M.D., Asst. Secy. Metropolitan Life Insurance Company, San Francisco.

The Menace of Spray Residue: H. C. Moore, Chief Los Angeles Station, U. S. Food and Drug Administration.

Legal Aspects of Dairy Inspection in Arizona: P. H. Brooks, Asst. Attorney General.

Examination of Food Handlers for Communicable Diseases: C. N. Boynton, Pathological Laboratory, Phoenix.

Survey of Cross Connections in City of Tucson: P. J. Martin, City Water Superintendent.

Introduction of members and guests.

Announucement of local arrangements.

12:30 P. M. Luncheon. Meeting of Executive Committee.

2:30 P. M. Health Work in the Public Schools: H. E. Hendrix, Superintendent of Public Instruction.

C. W. A. Program for Public Schools: Constance F. Smith, County School Superintendent.

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of Raw Water Supplies: F. C. Roberts, Jr., State Sanitary Engineer.

Relation Between Emergency Relief Administration and Public Health: Florence M. Warner, Secy. Arizona Board of Public Welfare.

Child Welfare Program of Department of Labor: Martha Elliott, M. D., U. S. Children's Bureau, Washington, D. C.

Controlling Algae in Swimming Pools with Copper Paint: J. R. Marston, Chemist, United Verde Copper Company.

Recent Epidemiological Trends in Childhood Tuberculosis: Max Pinner, M. D., Desert Sanatorium, Tucson.

The Diagnosis of Active Tuberculosis in Childhood: John W. Flinn, M. D., Pamsetgaaf Sanatorium, Prescott.

Childhood Tuberculosis in Tucson: L. H. Howard, M. D., City Health Officer, Tucson.

2:00 P. M. Dairy Inspectors' trip to visit dairies in vicinity of Prescott.

4:30 P. M. Visit to Prescott and Atchison, Topeka and Santa Fe Water Works at Del Rio.

WEDNESDAY, JUNE 6, 1934
GENERAL SESSION

9:30 A. M. Progress of Health Unit in Gila County: A. B. Ingles, Director, County Health Unit, Globe.

Problems of the County Health Unit: Warren F. Fox, Director, Imperial County Health Unit, El Centro, California.

Laboratory Examination of Suspected Cases of Dysentery: Mildred Wooly, Desert Sanatorium, Tucson.

Typhoid Prophylaxis: G. Morris, M. D., Director, Pima County Health Unit, Tucson.

Experience with One Dose Alum Precipitated Diphtheria Toxoid: Hugh F. Stanton, M. D., State Epidemiologist, Phoenix.

Address: J. L. Pomeroy, M. D., County Health Officer, Los Angeles, California.

Address: P. J. Covington, M. D., Field Representative International Health Institute, Rockefeller Foundation.

Brief Talks by Former State Health Officers.

DAIRY INSPECTORS' SECTION.
12:00 M. to 4:00 P. M.

Meeting with Yavapai County Dairymen.

Value of Bringing the Standard Milk Ordinance to Date: D. W. Fountain, City Milk Inspector, Phoenix.

Control of Bang's Disease in Dairy Herd: C. T. Guilfoyle, D. V. S., State Veterinarian.

Some Important Problems the Dairy Industry Must Solve: Clyde Rowe, Agricultural Extension Service, University of Arizona.

Informal Discussion of Dairy Problems.

2:30 P. M. Public Health Nurses' Executive Session.

Carolynn S. Whiting, R. N., Maricopa County Health Unit, presiding.

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Central and Southern Zone	Northern Zone
Cottonwood—Feb.	Cottonwood—March.
Ash—late Feb., March.	Junipers—March.
Rabbit Bushes—Mar., Apr.	Box Elder—April.
Bermuda Grass — March, Nov.	Scrub Oak—May, June.
Johnson Grass — March Nov., relieved by Bermuda ext.	Russian Thistle — June, Aug.
Careless Weed—May, Oct.	Careless Weed—June., Sep.
Russian Thistle—May, Jul.	Western and Bur Ragweeds Aug., Sept.
Olive—May.	Slender Ragweed in some sections—Aug., Sept.
Slender Ragweed — Sept. Nov.	

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The Public Health Nurse: Mrs. Ruth McGregor, R. N., Cochise County Health Department.

Public Health Work in Arizona from the Point of View of the Physician and Taxpayer: David M. Davis, M. D.

The Problem of Trachoma: Anna Isreal Nettle, M. D., U. S. Indian Service, Parker.

Questions and Answers from the N. O. P. H. N.

Business Meeting.

Election of Section Officers.

3:30 P. M. Conference of All Public Health Officers.

SANITARY SECTION

9:30 A. M. Sterilization of New Water Supply at Grand Canyon: E. Nelson, Chief Engineer.

Improving Prescott's Water Supply: A. J. Kline, City Engineer.

Results of the Sanitary Survey of the Colorado River in the Vicinity of Yuma: Kenneth Sawyer, Engineer.

Determining the Deterioration of Mains in a Water Distribution System: John A. Carollo, Consulting Engnieer, Phoenix.

Discussion: L. R. Burch, Office Engineer, Tucson Water Department.

Demonstration of Laboratory Tests for Sewage Treatment Plants: J. Pickett, Chemist, Phoenix Sewage Treatment Plant, and Jane H. Rider, Director, State Laboratories.

12:30 P. M. Luncheon and Annual Meeting, Arizona Sewage Works Association.

Some Practical Applications of Coagulants: R. A. Stevenson, Chemist, Great Western Electric-Chemical Co., San Francisco, California.

2:30 P. M. Decomposition of a Sewer Line: G. W. Marx, City Sanitary Engineer, Tucson.

Imhoff Tank Operation at Glendale: Charles Hircock, Water Department, Glendale.

Operating an Activated Sludge Plant: Hillyard Hall, Plant Operator, Grand Canyon.

Two Years' Experience as an Operator: D. Mauzey, Operator, Phoenix Sewage Treatment Plant.

Some Sewage Disposal Problems Presented to the State Board of Health: F. C. Roberts, Jr., State Sanitary Engineer.

Plans for Public Works Administration in Arizona: Howard S. Reed, State Engineer, Public Works Administration.

Special Notice: Arrangements will be made for a trip to the Water Works on the South Rim of Grand Canyon, if any of the members are interested.

6:30 P. M. Dinner and Annual Meeting of the Arizona Public Health Association, Hassayampa Hotel. John W. Flinn, M. D., Toastmaster.

WANTED — By Nurse-stenographer, position in physician's office or hospital historian. References. Address Box M, Southwestern Medicine.

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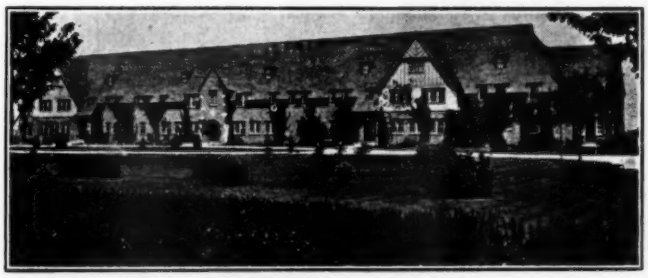

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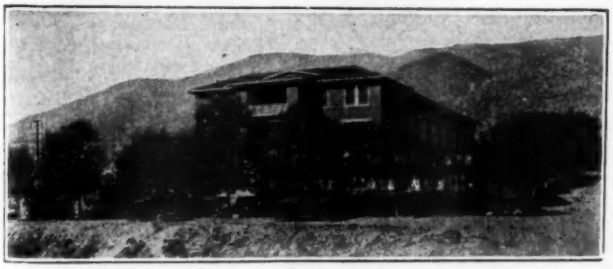

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